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Imparf

DESCRIPTION AND TREATMENT
OF
CUTANEOUS DISEASES.

ORDER III. RASHES.

PART I.

ON THE VARIETIES OF
RUBEOLA AND SCARLATINA.

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PHYSICIAN EXTRAORDINARY TO THE FEVER-INSTITUTION, AND TO THE PUBLIC
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John Keble

ON CUTANEOUS DISEASES. 214

ORDER III.

EXANTHEMATA, OR RASHES.

EXANTHEMA, Efflorescence, seems originally to have expressed an eruption of papulæ, miliary vesicles, wheals, or petechiæ*. Systematic nosologists, at present, denote by this word all eruptions on the skin attended with fever, while other medical writers apply it to eruptive complaints of every denomination†. I have used it DEF. VI. in a more limited sense, to express the appearance termed in English a Rash, which is a redness of the skin, varying as to extent, continuity, and brightness of colour, and occasioned by an unusual quantity of blood distributed to several of the cutaneous veins, in some instances

* Hippocrat. Coac. p. 208. (Ed. Fœsli) and page 157. Aphor. 9. lib. VI. Epidem. lib. V. 7. lib. VI. sect. 2. lib. II. p. 1020. lib. VII. p. 1221 & 1235. Oribas. Synops. VII. 7. Aët. Tetr. II. 1. cap. 129. Actuar. Med. lib. I. cap. 23. & II. 11. Cels. de Re Med. lib. V. 28.

† See Mercurialis, de Morb. Cut. lib. V. cap. 11. Sennert. Pract. Med. lib. V. part 1. cap. 22. Hafenreffer, lib. I. cap. 13, and Gorraei Definit. Med

with partial extravasation. Of these Exanthemata, or Rashes, some are contagious, others not; some are always febrile, others not manifestly attended with fever; some continue for a definite time, others are of an uncertain duration. Their generic divisions may be entitled Rubeola, Scarlatina, Urticaria, Roseola, Purpura, Erythema.

I. RUBEOLA, or MEASLES. In this genus, the rash appears mostly on the fourth day of a febrile disorder, and after a continuance of four days, gradually declines with the fever. The disease is contagious, and takes place in children, or in grown persons of an irritable constitution, from ten to fourteen days after they have been exposed to the infection*. Others, who

* The children of my friend Mr. Pearson were affected with the Measles in the following order.

1. A boy, aged 10, had the eruption on the 5th day of fever, 3 Dec. 1797.
2. A boy, — 7, ————— 6th ————— 15.
3. A boy, — 2, ————— 3d ————— 15.
4. A girl, — 11, ————— 4th ————— 16.
5. A girl, — 6, ————— 5th ————— 18.
6. A boy, — 1, ————— 3d ————— 27.
7. A girl, — 13, ————— 4th ————— 1 Jan. 1798.

The last child came home from school on the 16th, and was, therefore, affected with the rash sixteen days after exposure to contagion.

For

who are less susceptible, may have frequent communication with persons affected, during several successive weeks, but the contagion does not act upon them unless the body be brought into a feverish state by some incidental cause, as by taking cold, by watching, fatigue, or mental suffering. I do not recollect any person wholly unsusceptible of this disease after repeated exposure to the contagion, as happens in the Small-pox in a very considerable proportion.

The varieties of Rubeola hereafter to be noticed, are Rubeola vulgaris, Rubeola sine catarrho, and Rubeola nigra.

1. In the RUBEOLA VULGARIS, or usual form of Measles, the symptoms prior to the efflorescence are, on the first and second days, irregular shiverings alternating with heat of the skin; general debility or listlessness; flushing of the cheeks; giddiness; a sensation of pain or weight across the forehead and eyes, with disposition to sleep; sometimes pain of the back and

For eight days before, she had had catarrhal symptoms attended with head-ach and giddiness.

The eldest child of White, King Street, St. James's, had the rash, Oct. 31. 1796, the fifth day of fever. Two younger children had the rash on the 11th of November, the fifth day of fever.

Infants at the breast are not so susceptible as children more advanced.

limbs; flight soreness or roughness in the throat; loss of appetite; frequent nausea; thirst; a white fur on the tongue; clear, high-coloured urine; pulse much increased in frequency, and somewhat labouring or irregular. On the third and fourth days, the same symptoms continue, but with greater violence: the eyes become tender and inflamed; the eye-lids and tarfi appear a little turgid; at the same time a serous humour is copiously discharged both from the eyes and nostrils, which occasions repeated sneezing. The disease during this period, and usually for two or three days longer, is accompanied with a frequent, dry cough, hoarseness, difficulty of breathing, and a sense of constriction across the chest. In children a harsh, sounding cough often occurs seven, ten, fifteen, or twenty days * before the disease formally commences: all the symptoms of the first stage are in them more severe than in adults; and they are affected, more especially if teething, with frequent twitchings, or even with strong convulsive fits, a circumstance mostly considered as favourable, with which opinion, however, the result of my own experience does not coincide.

In those who have a very delicate skin, the rash or efflorescence sometimes appears partially on the third

* Compare Hoffmann, tom. II. § 1. c. 8. Heberden, Comment. p. 266.

day:

day : a dark, or thickened skin, and the application of cold, may, in a few cases, prevent it's being manifest till the fifth or sixth day ; but when it is said not to have appeared till after this time, the patient had probably become feverish from some incidental cause*. If the disease begin with a distinct paroxysm of fever, in a person more than twelve years old, the efflorescence takes place almost invariably on the fourth day. It is first visible on the forehead, under the chin, or about the throat, then on the nose, cheeks, and round the mouth, exhibiting elsewhere, in the course of this day, only a few scattered specks (*Stigmata DEF. IV.*) with a somewhat warmer colour of the skin than usual. It is formed on the neck and breast early on the fifth day, and is diffused, towards evening or in the night, round the trunk of the body, and along the extremities : during this day, it is most full, and vivid, on the face.

The colour of the rash in the Measles is less bright than in some other diseases of the present order. The

* When a person, who carries about him the contagion of the Measles, gets a Catarrh, or becomes feverish from the causes mentioned page 215, the contagion begins to operate about the fourth day of such a fever, and then excites fresh paroxysms, which, after four days, terminate in the eruption : hence the febrile stage, previous to the rash, appears in this instance to have the extent of eight days.

precise tint, on the fifth day, is exhibited PL. XX. and XXI. On the eighth day, when the rash declines, the colour changes to somewhat of a yellowish hue; see PLATE XXII. Fig. 2. The rash commences with distinct, red, and nearly circular dots, about the size of those at A. Larger patches appear afterwards, which are not exactly defined, but approach nearest in their form to the figure of a crescent or semicircle, as B. B. B. These patches are slightly raised, and give to the finger the sensation of an unequal surface. Being examined with attention, they are found to consist merely of clusters of the small red circles before-mentioned. Many of the patches are interspersed with the same red, circular dots; but there are, for the most part, large interstices of cuticle retaining its usual colour. From these characteristic appearances of Rubeola, there are only partial variations; as, 1st. The flushed and tumefied state of the cheeks, while the fever continues, may obliterate or obscure the form of the rash on those portions of the surface. 2dly. In infants less than a year old, the efflorescence is much scattered; and on the cheeks, nose, backs of the hands, &c. it often consists of distinct papulæ, DEF. V. The wrists, hands, and fingers are also frequently papulated in adults. 3dly. In many persons, at different ages, there are, during

during the height of the efflorescence, lymphatic or miliary vesicles * on the neck, breast, and on the arms, as represented in PLATE XX. C. C.

It is to be observed that, on the fourth day, small dark red patches, in their form nearly resembling those above-described, appear on the palate, uvula, tonsils, and velum pendulum palati. During the fifth day they become more mixed, and terminate in a general

* I inoculated, about the same time, three children with the fluid contained in these vesicles, but no effect was produced by the inoculation. A similar trial at the Inoculation Hospital proved more successful. Richard Brookes, aged eighteen, was inoculated by Mr. Wachsel, with fluid from the miliary vesicles in Measles, and with vaccine virus, January 6, 1800. On the 10th, there was some redness and elevation of the cuticle at both the inoculated places. Jan. 15. The redness round the part where the lymph of the measles was inserted, had disappeared, while the vaccine pock was vivid. Jan. 18. The Vaccine disease was over. Jan. 22. He had severe cough, sneezing, and watery eyes, with cold shiverings and fainting. Jan. 28. The Measles appeared: his eyes were inflamed, and the lids swollen. 29. The efflorescence was diffused all over the surface of the body; frequent cough; violent fever. Feb. 1. Efflorescence disappeared; cough and fever much abated. From that time he recovered gradually, and was dismissed in health the 12th of February.

Three children, of one family, infected by him, had the usual efflorescence of Measles on the 10th, 11th, and 13th of February. From these the contagion extended to others in the house, three of whom had the efflorescence on the third of March, one on the 15th, one on the 18th, one on the 20th, one April 9th.

freaky

streaky redness extending to the fauces behind the velum pendulum. This state of the surface occasions a sensation of roughness in the throat (p. 216.), and aggravates the hoarseness already produced by the primary catarrhal inflammation about the larynx, &c.

On the sixth day of the disease, the efflorescence on the face begins to fade and subside, while the patches on the body are most red and extended; but these, in like manner, change their appearance the day after, losing gradually their distinguishing form; see page 218. The patches, or papulæ, on the back of the hand and wrist, which usually appear latest, in some instances on the sixth or seventh day, do not always decline till the eighth day.

On the ninth day, there remain only vestiges of the efflorescence marked by a slight discolouration; this, however, disappears before the end of the tenth day. When the rash begins to decline on any part, the cuticle becomes dry and rough, and soon after separates in scurf (DEF. I.) Hence arises a very disagreeable itching of the skin, which continues from the seventh to the tenth day.

The progress of the eruption is sometimes prematurely checked by exposure to cold, or by the improper

proper use of purgatives. It's retrocession occasions violent delirium, restlessness, difficulty of breathing, pain of the bowels, diarrhœa, &c. and always greatly endangers the patient's life*.

The inflammation of the eyes, the discharge of tears, the sneezing, and hoarseness, generally cease on the decline of the efflorescence about the seventh day; at least they are always much abated at that time, and the appetite for food returns. Between the fourth and sixth day, there is often a hæmorrhage † from the nose, and in females an appearance of the catamenia out of their course, but these circumstances occur in other eruptive diseases.

Dr. Heberden has noticed the following particularities of Rubeola: "One patient was seized with a spitting on the fourth day, which continued to teaze

* Quando Morbilli, et Variolæ de improvise intus subsidunt, postquam coeperint emergere, et cum molestiâ simul accidit deliquium, interitus citò deliquium istud sequetur, nisi erumpant denuò. Rhazes, cap. 14. Compare Avicenna De Alhasbet, & Alsaharav. tract. 31. cap. 1. Foresti Obs. 45. l. VI. Schol. and Reports on the Diseases in London, p. 99.

I never saw what is remarked Ed. Med. Essays, V. 28. "that in some instances, after the patients had remained listless for several days or weeks, the eruption came out again." This occurs, however, in the Scarlatina.

† Foresti, Obs. 48. l. V. Hoffmann. tom. II. p. 66.

him for forty-eight hours, without suffering him to rest at all by day, or to sleep at night: the cough in the mean time almost ceased, and all the other symptoms were as mild as in a favourable sort of the Measles."

"In one or two patients, I have seen the eruption appear on the arms a few hours after it's having been observed on the face and neck."

"Once or twice the distemper has been observed never to have reached the arms, which parts, through the whole of it, shewed none of the usual spots."

"The eye-lids have been so swelled, on the second day of the eruption, that for twenty-four hours they could not be opened."

"In several patients, the marks on the face have been, the third and even fourth day of the eruption, of as bright a red as ever. In others, I have observed them to disappear entirely on this day, and all the other symptoms likewise to retreat."

"I have noted a very troublesome and constant sneezing, which first came on upon this day."

"A child, five years old, became comatose the third day of the eruption, and died the next."

"The longer the preparatory symptoms have continued, and the worse they were, so much the less mild the distemper proved."

"Those

“Those who have shewn the least remains of the eruption after the seventh day of the disease (and some have hardly shewn any) have appeared the best; and in those where it was still in undiminished vigour, the cough and fever have been the worst.”

At the commencement of the eruptive stage of the Measles, the fever does not receive any immediate alleviation, but is often somewhat aggravated. However, the nausea and vomiting seldom continue beyond the fourth day, as Sydenham has justly remarked: the distressing heat, panting, and restlessness abate on the sixth day. When the efflorescence and its concomitant symptoms are finally removed about the ninth or tenth day, a diarrhoea, in general, supervenes, and is troublesome for several days afterwards: it sometimes comes on at an earlier* period of the disease, especially in children.

In many persons, the cough, soon after the disappearance of the rash, recommences with violence, being attended with difficulty of breathing, fixed pain in the side, flushing of the cheeks, quick pulse, and often with paroxysms as in a hectic. These symptoms are protracted much longer than in pneumonic inflamma-

* See Syd. sect. 1. c. 5. and Med. Trans. III. 399.

tion produced by cold, and they frequently terminate by effusion into the cavity of the chest, or by spitting of blood, suppuration, and confirmed pulmonary consumption.

Some other appearances which occasionally succeed the Measles likewise demand attention. These are,

- 1st. Small hard tumours, like boils, being in the beginning very much inflamed, and sometimes of a livid colour, afterwards suppurating with great pain and a sanious discharge. They appear mostly on the back, loins, or lower extremities, and are not readily healed. In children there is an analagous eruption of inflamed pustules (Phlyzacia DEF. X. 1.) on different parts of the body, but particularly on the feet, legs, thighs, and scrotum.

- 2dly. An eruption round the chest, about the mouth, temples, &c. of watery vesicles, in clusters, with an inflamed base, producing much heat, pain, and tingling of the skin.

- 3dly. In infants aphthous ulcerations of the tongue and fauces.

- 4thly. Soft pustules containing a viscid, straw-coloured

loured fluid (Achores & Favi, DEF. X. 3.) on the head, face, breast, and thighs, succeeded by ulcerations at the corner of the mouth, with tumour of the upper lip, sore eyes and ulcerations of the tarfi, discharges from behind the ears, enlargement and tedious suppuration of the submaxillary, occipital, axillary, and inguinal glands, and with pain and swelling of the joints*.

5thly. In some cases where no eruption of pustules, nor superficial ulcerations have preceded, the lymphatic glands of the neck and other parts become considerably enlarged: this appearance is succeeded by a swelling and tension of the abdomen, with hectic fever and emaciation.

I never saw the Rubeola terminate by gangrenous ulcers of the throat, cheeks, gums, &c. or by caries of the jaw-bones, as stated in several respectable authors†.

Those

* See J. J. Schliebach, in Act. N. C. tom. VI. p. 215. ann. 1739.

† Nonnulli ex neglectis aphthis tanta accrevit oris putredo, ut ante instans mortis punctum, mandibulae sponte exciderint; alias a chirurgis caro circa illas, gangraena affecta, omnino resecta fuerit. Eph. Nat. Cur. dec. 1. ann. 2. 1669.

Plus semel hoc mense notavi faucium, et oris gangraenam, maxillae porro, et vomeris ossis cariem, unde mortem miserrimam—post Morbillos scilicet.—Huxham de Aere, tom. II. 137 & 139. The epidemic disease here mentioned was often succeeded by “ophthalmia, angina, ulcera faucium, parotides, cum

erysipelate

Those dreadful symptoms more especially belong to another disease of the present order.

The eruptive stage of the Measles is not attended with much danger, either to infants or adults, but the subsequent period may prove fatal in both. Between the ninth and twelfth day, some children are unexpectedly attacked with great difficulty of breathing, or suffocation*, and die in a few hours. In others, the usual diarrhœa, beginning about the tenth day, continues, without intermission, so long that they become pale, emaciated, and exhausted: aphthous ulcerations of the mouth, under these circumstances, are generally the fore-runners of death. Adults, as well as children, have, in some cases, hectic paroxysms twice in twenty-four hours, without any cough or diarrhœa: during the intervals, there is great restlessness, panting, and a quick irregular pulse. The patients thus affected for two or three successive weeks, gradually sink under the complaint: a fatal termination of it

erysipelate capitis," &c. It was, therefore, probably the Scarlatina anginosa, not the Measles. Huxham, in the early part of his observations, uses without nice discrimination the terms rubeola, morbilli, rubeoli, and rossalia or scarlatina, page 68. Many singular examples of this inaccuracy of language, which has been very injurious to medical science, will appear hereafter.

* See Hoffmann de Febre morbillosâ.

seems,

seems, however, to be averted by the appearance of boils, pustules, or suppurating tubercles on the skin, which operate very favourably with respect to the internal disorder. In like manner, the fever, diarrhœa, cough, pain, and dyspnœa, soon abate after an eruption of the Achores (DEF. X. 3.), and almost instantaneously after an eruption of inflamed watery vesicles round the chest, about the hypochondria, &c. page 224. An alleviation takes place, but more slowly, in consequence of a discharge from behind or from within the ear, and of suppuration in some of the lymphatic glands. When nothing of this kind appears externally, the inflammation of the lungs and pleura in adults (page 223) is sometimes on a sudden greatly aggravated: the cough ceases, respiration becomes more and more laborious, with a sense of oppression and anxiety: the eyes are glassy, the countenance livid, the extremities cold, the pulse scarcely discernible. After a struggle of three or four days, the disease has a fatal termination, the cause of which dissections have ascertained, in several cases, to be an effusion, into the cavity of the thorax, of lymph mixed with blood, or matter.

The Rubeola vulgaris is usually a mild disease in the summer months, being attended with a moderate degree of fever, and but little cough. In January,
February,

February, and March, it is most frequent, most severe, and most dangerous. Dr. Sydenham's observation* "that the Measles, whether regular or anomalous, begin in February, arrive at their acmè about the vernal equinox, then decline till midsummer, and wholly disappear in July," is not confirmed by other writers, nor seems to agree with the experience of practitioners in London at the present time†. The diffusion of contagious diseases may be somewhat promoted by the state of the atmosphere, but it certainly depends much more on other circumstances, such as the full population of any place, the closeness and want of cleanliness in its tenements, the frequent intercourse between the inhabitants of the district where infection prevails and those of other towns and cities: lastly, a greater extent is given to all contagious febrile distempers when the public mind is strongly impressed with the fear of a hostile invasion, famine, or any general calamity. Of these predisposing apprehensions the dread of contagion itself is not the least.

* De Morbillis ann. 1670, page 158, 169. "The Measles take place mostly in autumn, either with a south wind, when the air is turbid and hazy, or when there is rain with any other wind." Rhazes from George Bachtishua. "The Measles and Small-pox are multiplied in hot summers with a south wind." Rhazes, cap. 2. & Avicenna, I. 2. 2. 6. Alsaharavius says, "When the winter is hot and dry, with little rain, then expect the Alhasba" (Measles.) Tr. 31 cap. 1.

† See Reports on the Diseases in London, page 104-5.

the

In the eruptive stage of the *Rubeola vulgaris*, it is necessary to enjoin a very light diet, with mild, tepid drinks, to keep the patient in a room of a moderate size, and carefully to guard against any sudden changes of temperature. An emetic* given on the second or third evening, somewhat alleviates the violence of the catarrhal symptoms, and contributes to prevent the diarrhoea which usually succeeds the Measles. During the eruption, I have not observed any considerable effect from antimonials or other diaphoretics: bathing the feet every evening in warm water seems to be a more beneficial application. Emulsions and mucilages afford but a very feeble palliation of the cough, and difficulty of breathing. These symptoms are relieved by the inspiration of steam, which may be further recommended as an effectual mode of promoting perspiration. The metallic inhalers, usually employed, convey too strong a heat into the lungs; it will therefore be sufficient to set before the patient a basin full of hot water, the vapour being slightly confined round the head by a piece of cloth or flannel.

The necessity of blood-letting in this disease is generally allowed, authors only differ in respect to the time when it may be practised with most advantage.

* See De Meza, tom. I. 98. Hoffmann. tom. II. p. 63. Rosenstein on the Diseases of Children, chap. xvi.

Dr. Morton* thinks it requisite as soon as the eruption is completed, the disease being, in his opinion, most inflammatory at that period.—Sydenham† recommends bleeding after the eruption has disappeared, and when a difficulty of breathing succeeds, with symptoms of inflammation of the lungs: in that case, he thinks, even infants may be bled with great advantage. Dr. Mead‡ criticises the doctrine of both these eminent physicians, and observes that our practice should be regulated by the degree of the pneumonic inflammation, without attending to the particular period of the disorder, or state of the eruption. Dr. Heberden agrees with him in opinion:—"Bleeding may be used at any time of the Measles, and is always beneficial where the symptoms are very distressing, particularly an oppression of the breath, to which every stage of this distemper is liable: and bleeding, together with such medicines as the occasional symptoms would require in any other fever, is the whole of the medical care requisite in the Measles. The flowing of the menses ought to be no objection to the opening of a vein, if the cough and shortness of breath make it otherwise advisable. I never saw any bad consequences from bleeding a woman in these circumstances; but the greatest danger might attend

* De Morbillis, pag. 54.

† De Morbillis, ann. 1670.

‡ De Morbillis, 92—95.

the omitting to do it in a violent cough and oppression of the breath."

"The Measles are far less dangerous for pregnant women than the Small-pox. I have attended several, who were greatly harassed by the violence of all the usual symptoms in this illness; but I never knew it make one woman miscarry, or be in more danger on account of the pregnancy*."—It appears further, that infants, before birth, may go through the Measles without injury, some having been born with the actual eruption, others with the vestiges of it on the skin†.

In bleeding infants during the Measles, it is not necessary to open a vein, as Dr. Sydenham has advised, but the application of leeches to the upper part of the chest, will generally prove advantageous, and may be repeated as the symptoms require. It seems, however, not improper to bleed, with the lancet, children more than five years old, in the case of

* Comment. pag. 271. & Med. Trans. Vol. III. 404.

† Hon. matrona cum dimidiam partem noni mensis imprægnationis attigisset, febre acutâ et quidem malignâ, correpta fuit: Morbilli quinetiam mox per totum corpus eruperunt. Quartâ die morbi, prægnantium doloribus correpta, puellum per totum corpus morbillis contaminatum peperit. Hildan. Obs. Chirurg. 56. Cent. IV. Compare Ephemerid. N. C. DEC. II. Ann. iii. pag. 204. Cent. V. pag. 91. and Rosenstein, chap. XIV. I have not myself ever seen an instance of this kind.

sudden difficulty of breathing, which threatens to suffocate the patient at the conclusion of the disease, as mentioned page 226.

On the third, fourth, or fifth day of the fever, when there is oppression with anxiety, heaving of the lungs, and a labouring pulse, most practitioners recommend bloodletting in adults. I have not adopted the recommendation unless urged by the coincidence of a hard cough, and pains in the chest. Those who from doubt, or from some collateral motives, are led to await the event, usually find the pulse become moderate, and the uneasy laborious respiration terminate in twenty-four hours. This oppressed breathing is, indeed, common to other eruptive fevers, and if it were universally considered to be an indication for bleeding, the practice would often be more fatal than the disease. When the efflorescence in Measles has wholly disappeared, and the cough, difficulty of breathing, and pains in the chest are very severe, bleeding and cupping may perhaps be repeatedly necessary. Yet, even in robust habits, some limitation is requisite to this mode of practice, since it has not an effect in alleviating the symptoms, equal to that which is experienced from it in pulmonic inflammations, originating from cold. Hence we should employ as auxiliaries to bleeding, at the latter period of the disease, blisters,

blisters, opium, and demulcent liquors. Sydenham prescribed an opiate* every night through the whole course of the Measles, but this plan seems not beneficial in the eruptive stage: I have observed, and myself felt, while labouring under the disease, that opium did not conciliate sleep, but produced an increase of heat and restlessness, and therefore seldom direct it till the efflorescence has declined. A diarrhœa occurring at this period may be accounted a most favourable circumstance, since nothing so effectually relieves the peripneumonic symptoms, or contributes more to prevent the troublesome consequences of the disease formerly mentioned. The necessity of bleeding as a remedy for the diarrhœa is insisted on by Dr. Sydenham from theoretical reasoning†. Experienced practitioners in London seem to have now decided, that we ought not to interfere with this critical evacuation, but should rather allow it a free course, at least for some days. Where the

* At præ reliquis diacodium omni nocte ab ipso morbi insultu, per totum ejus decursum, exhibendum curavi. Sect iv. cap. 5.

† Quin diarrhœa quam Morbillos excipere diximus, venæ sectione pariter sanatur: cum enim halitibus inflammati sanguinis in intestina ruentibus ortum suum debeat (quod etiam in pleuritide, peripneumoniâ, aliisque qui ab inflammatione creantur morbis usu venit) a quibus illa ad excretionem stimulantur, sola venæ sectio levamen adferet, a quâ tum revelluntur acres isti homores, tum etiam sanguis ad debitam redigitur temperiem.

diarrhœa does not thus take place, it is proper to imitate the usual process of nature, by the occasional use of purgatives, which will always be found to relieve the cough, and by allaying the inflammatory symptoms often supersede the necessity of bloodletting.

2. RUBEOLA SINE CATARRHO. When the Measles are epidemical, a few cases occur wherein the eruption goes through its different stages without any cough, difficulty of breathing, or inflammation of the eyes; without much alteration in the pulse, or any febrile symptoms*. This variety of Rubeola may be distinguished from other efflorescences, also from the Lichen, and Strophulus, by comparing with the account and representations given of those complaints, the statement at page 218, and the coloured engraving, PL. XXI. In infants the eruption is more papulated, and the patches often less extensive, than represented in the plate, so that to discriminate with exactness, the patient

* So Dr. Heberden: "Some have been so fortunate as to have the Measles appear after suffering so very little from fever, or any of the preparatory symptoms, that they could hardly say they had been ill;" and Sprengel, de Constitut. epid: Halens. anni 1790. Act. Nov. N. C. Tom. VIII. p. 153. "Vidi infantes sanos, robustos, qui nec lecto, nec hypocausto affixi, quatuor diebus liberi fuerunt ab omni morbi molestiâ. Nulli hic desquamatio obtigit. Remediis fere non opus fuit. An recursui morbillorum genuinorum hæc subjecta obnoxia sunt observare non licuit." The author considers this as the species termed by other German writers Morbilli spurii.

being

being under two years of age, requires both minute attention, and some previous habitude.

An eruption of the Measles without fever or catarrhal symptoms, though not requiring medicine, merits in this place a specific consideration, because it does not appear to emancipate the constitution from the power of the contagion, nor to prevent the accession of the *Rubeola vulgaris* at a future period. For two instances of this recurrence, being among my own children, and at an interval of two years, I can decidedly answer. The particulars are given in the "Reports on the Diseases in London, 1799," page 207. Under what circumstances the Measles have elsewhere occurred two or more times in the same person, is not easily collected from the authors who mention such repetitions of the disorder*. After an attention for more than twenty years to eruptive complaints, having never met with an individual who had twice had the febrile Rubeola†, I am led to suspect some mistake in the cases adduced contradictory to this observation—a mistake likely to be made, considering how difficult it often is to distinguish the Measles from

* See Burserii Instit. Med. Pract. § cxii. & Roberdière, Recherches sur la Rougeole, pag. 3. A Paris, 1776.

† During a practice of forty-four years, I never met with a single instance. Rosenstein, ch. XIV.

Scarlatina, Roseola, Strophulus, &c. considering also that young practitioners are not less forward than those more experienced in publishing their observations, nor less desirous of establishing new doctrines in medicine. I cannot, however, omit the singular occurrence of two eruptions of the Measles, in the same person, at a short interval, or of the immediate succession of the Rubeola vulgaris to the Rubeola sine catarrho, noticed (p. 106) in the Reports on Diseases, above quoted. I have since seen other cases of the same kind, wherein the efflorescence, without fever or catarrhal symptoms, having declined, there appeared, on the fourth day from its commencement, a new efflorescence, and violent disorder of the constitution. These instances are perfectly analogous to some cases of Small-pox, in which distinct pustules arise without any material complaint, and when these decline, about the eighth or ninth day after their appearance, the variolous fever takes place with an eruption of confluent pocks over the whole surface of the body.

3. RUBEOLA NIGRA. I never saw the Rubeola vulgaris intermixed at an early period with petechiæ: but it sometimes happens, about the seventh or eighth day, that the rash becomes suddenly black, or of a dark purple colour, with a mixture of yellow, as represented PLATE XXII. Fig. 1. This appearance has continued
ten

ten days, and in some cases longer, without much distress to the patient*, and with no other symptoms of fever than a quick pulse, and a slight degree of languor. It is, however, observed by Hoffmann, "*Malum dein, quando aliæ maculæ, virulentia non expertes, uti petechiæ, purpura, vel etiam pustulæ scorbuticæ, complicantur, vel in fine, cum vitæ discrimine, superveniunt*†."—In the treatment of this disease, the mineral acids were employed with evident advantage. The only case I have seen, which terminated fatally, was of a boy under four years of age. He had symptoms of Catarrhal fever on the 17th of

* See Reports on the Diseases of London, page 189.

† Hoffm. op. tom. II. page 67. We might conclude, from the repeated mention of them by certain medical writers, that these appearances are much more frequent and fatal in a hot climate: *Signum Alhasbæ mortalis, et pravae, est livido coloris, et viriditas, vel color violaceus. Alsaharav: Pract. II. 31. & Avicenna, tom. II. pag. 74.*

Dixit F. Mesue: cum vides *Blactias coloris fuscæ, et sunt universaliter per totum corpus, et amplæ; et murmurat, et pigrescit æger, et venter ejus inflatus est, manibusque percussus sonat ad modum tympani, est malum.*

Morbilli fuscæ quidem pravi sunt, virides autem et violacei, ambo planè lethales. Rhazes de Variol. & Morbillis, cap. 14. Ad Almansor. L. X. cap. 18. & Continent. L. XVIII. cap. 8. Rhazes also mentions an oozing of blood from the patches in the Measles. The above observations, however, cannot be fully depended upon, because most of the Arabian physicians have confounded the symptoms or circumstances of the Measles with those of the Small-pox, and Scarlet Fever.

December, 1799. The usual efflorescence appeared on the 24th, and after partial desquamation on the 26th and 27th, became of a livid colour, especially on the breast. His fever continued, with a frequent dry cough, with quick laborious breathing, blackness of the lips and cheeks, beating at the temples, occasional delirium, thirst, nausea, and frequent small slimy offensive stools, till the 8th of January, when his hands began to swell, and were soon afterward, as also the feet, permanently contracted. In this state he died, January 13th, in the morning.

I have not observed any other varieties of Rubeola requiring particular consideration. There is no sufficient ground, or authority, for the distinction of Rubeola variolodes made by Sauvages*. Those who speak of

* He refers to the Journal de Medecine, July 1758, where the complaint mentioned is the Zona herpetica, or Shingles. The terms Rougeole boutonée are applied by some French writers to the Chicken-pox: in others they express the appearance of papulæ, and miliary vesicles, along with the usual rash; see above, page 218, & 234. Malouin, Hist. de l'Acad. It is observed, Ed. Med. Ess. V. 27. of the Measles in 1735, "The Exanthemata were of the common form generally, but in some they rose above the surface of the skin as high as the mild kind of Small-pox are generally on the second day; none of them however suppurated." These papulated Measles are called at Edinburgh "the Nirles," a term likewise applied in Scotland, and the northern counties of England, to denote the Herpes miliaris.

Morbilli sine Rubeolâ, and of Febres morbillosæ sine Morbillis *, perhaps refine too much:—should the efflorescence be partial, or very obscure, on the surface of the body, it will generally be seen in the mouth and fauces (page 219.) Any person much exposed to the breath of patients affected with the Measles and Hooping Cough, may, after having had those complaints, be notwithstanding liable to slight inflammation of the eyes, sneezing, and severe cough, with some febrile symptoms; but the Febris morbillosa of Sydenham†, and de Haen, is not of this nature: it should rather be ranked among the species of epidemic Catarrh, a disease which often occurs at seasons when the Measles are most prevalent, and which seems annually to visit our metropolis‡.

* De Haen de Febr. divis. 17. § 6. Ed. Med. Essays, vol. V. pag. 29. Act. Nova, tom. VIII. pag. 183.

“ J’ai vu, tandis que la Rougeole régnoit en ce pays, quantité de Fievres morbilleuses sans eruption, chez ceux surtout qui avoient déjà éprouvé cette maladie. Cette espece de fièvre, plus maligne en quelque sorte que l’éruptive, en avoit tous les symptômes au dernier degré, de sorte qu’on ne pouvoit se méprendre, et la regarder pour autre chose qu’une Fièvre morbilleuse, qui ne différoit de la Rougeole, que par une apparence extérieure.”—Roberdière pag. 7, 8.

† De Morbillis, ann. 1674.

‡ See Reports on the Diseases in London, pages 2. 59. 76. 146. 253.

In the *Morbilli anomali* ann. 1674, mentioned by Sydenham, the anomaly is referable to the following points: 1st. The rash occurred a few hours sooner or later than in the regular Measles of 1670. 2dly. It appeared first on the shoulders and trunk of the body, not on the face. 3dly. It was not often followed by desquamation of the cuticle*. 4thly. The fever, cough, and peripneumonic symptoms were more violent than usual, and therefore often terminated fatally. —In other respects the disease of 1674 agreed with that of the year 1670, and required the same mode of treatment. The irregularities noticed by Burserius (§ CI.) chiefly relate to the form and duration of the fever attending the Measles.

It may be proper here to notice the “Putrid Measles,” observed by the late Sir William Watson, among the children at the Foundling Hospital, in 1763 and 1768; see *Med. Obs.* Vol. IV. In this disease there was a cough, and watery inflamed eyes, but “the eruption appeared, over nearly the whole body, on the second day;” “the fauces were of a deep red colour;” “the pulse was very quick, but low;” “the patients com-

* When the efflorescence is partial and obscure, the cuticle seldom desquamates after it, and the disease is always severe. Nearly the same danger arises in this case, as when the premature retrocession of the rash occasions the distressing symptoms recorded page 221.

plained

plained of extreme weakness, and could not bear bleeding ;” “ their oppressed and difficult breathing was attended with great restlessness, and anxiety, but with scarce any expectoration throughout ;” “ some died under laborious respiration, more from a dysenteric purging ;” “ several were so debilitated that they refused to take almost any nourishment, and sunk quite emaciated, one so late as six weeks after the attack” ; “ some cases terminated in mortification of the rectum, pudenda, cheeks, gums, &c. others with caries of the jaw bones.” These circumstances do not belong to the Rubeola, or Measles, generically considered ; they are, indeed, ranked otherwise in Sir W. Watson’s own statement respecting the disease, which he refers to the *Morbilli maligni*, or *epidemii*, described by Morton*. Now it must be observed, Dr. Morton expressly maintains that the Measles and Scarlatina are the same disease, with no more variation in their form than there is between the distinct and confluent

* Dr. M. also terms them *Morbilli spurii*, pag. 33. 41. 55. 86. &c. *De Morbillis et Febre Scarlatina*. These “ malignant” or “ spurious Measles,” were, in some cases, attended with peripneumonic symptoms, in others with angina, or ulcerations of the fauces and parts adjoining, said to have been fatal, by a sudden strangulation, to many hundreds, during the year 1672.

Small-pox* ; he has therefore conjoined their principal symptoms (cap. iii.), and wishes to banish the distinction, and the very name of Scarlatina, from medical language†. In this wish Dr. Morton has not succeeded: hence those readers who attend, not to the names of things, but to the things themselves as described, will find that the Morbilli maligni, Morbilli epidemii, Morbilli spurii, and Febris morbillosa pestilentialis, in his writings, have no relation to the Measles, but constitute the disease, to which other writers have given the titles of Angina maligna, Ang. epidemica, Ang.

* De Morbillis & Febre Scarlatina, cap 4 & 5. Febris Scarlatina quoad causas, symptomata, differentias, prognostica, indicationes curativas, et methodum medendi, idem ipsissimus morbus est ac Morbilli. Pag. 7.

† “Exulet igitur per me e censu morborum hæcce febris, nisi cuiquam Morbillorum confluentium titulo eam designare in posterum visum fuerit.” Dr. M. accordingly subjoins histories of Measles, and Scarlatina, taken indiscriminately. The first case, which is given as a specimen of the Morbilli epidemii of 1672, must, according to Dr. Morton's own definition (page 39), be considered as a case of Scarlatina, for he says, efflorescentia morbillosa—summè inflammata, ferè ad instar erysipelatis, apparebat, and he applies nearly the same terms, in the second case, to express the efflorescence of an acknowledged Scarlet Fever. The last case, entitled Febris Scarlatina symptomatis dirissimis, et pestilentialibus comitata, he refers to “a morbillous poison,” which, when it cannot be propelled through the cuticle, usually falls upon the glands of the nostrils, fauces, groin, &c. producing inflammation, and ulceration of them, also carcinoma, buboes, and swelled parotids.

pestilentialis,

peffilentialis, Ang. ignea, Scarlatina anginosa, Scarlatina maligna, &c. &c*.

Sir William Watson probably first adopted Dr. Morton's opinion, and nomenclature, about the year 1768; see Med. Obs. IV. p. 133. In 1763, his technical terms seem to have been different: he says, Med. Obs. IV. p. 136, "The first person seized with the Epidemic Measles was on April the twenty-first," but in the weekly Report of the sick to the Hospital Committee, and in the Apothecary's book, this case is denominated "Eruptive Fever†." The two other cases, said, Med. Obs. p. 137, to have occurred between the 21st of April and the 4th of May, are not entered in the written books under the denomination of "Measles": one is termed "Eruptive Fever," the other "Scarlet

* The same observations apply to the passages quoted from Huxham in Sir W. Watson's paper. See above, pag. 225. Dr. Morton might have been defended from the severe censure on his accuracy respecting the fatality of the Morbilli maligni (Med. Obs. IV. 30), by allowing him the classical licence use the numeral "tercentos" indefinitely, did not the adverbs "plus, minus" rather too strongly convey an intention of fixing the average of deaths by this malignant disorder at 300 a week in London, during the autumnal months of 1672.

† "Mary Grant, April 21, Eruptive Fever and Mortification. Died May 3d, 1763."

Fever."

Fever*." From these sources one hundred and eighty children were soon affected with the disease in question, every case of which is termed "Eruptive Fever," no mention being made of Measles in the Report-book till the latter end of November, when ten cases are entered under the name of "Morbillous Fever." This, however, had no connexion with the preceding "Eruptive Fevers," which, according to the printed account, (page 137) wholly ceased on the 9th of Junet.—In 1766 many of

* "Edward Page, April 26, Scarlet Fever." "Hester Fox, April 30, Eruptive Fever." One of the first cases is also termed "Fever with a Rash;" some others are entitled "Fever" simply. The varieties of Scarlatina were not named, or distinguished, by English physicians, for many years after the date of Sir William Watson's Essay. Hence, in connecting his observations with those of preceding writers, he was probably led to use their terms and distinctions, and to entitle his paper "an Account of Putrid Measles," instead of Putrid Scarlet Fever. The symptoms detailed coincide with those of the latter disease; and I have no doubt, considering the gradual change of medical nomenclature since 1769, that, if Sir W. W. had written eighteen years later, on the same subject, he would have prefixed a different title.

† Sir W. Watson's statement has led several persons to suspect, that, from the virulent symptoms of a disease always reputed inflammatory, there must be something amiss in the state of the air, the diet, or general management of the children at the Foundling Hospital. For this suspicion there is no ground. The regulations remain nearly the same as first framed by the governors, yet their active and intelligent physician, Dr. Stanger, informs me that the Measles, during the last twelve years, have never appeared in any other form than as described

of the Foundling children, particularly those placed at Westerham Hospital in Kent, are said to have been affected with "Eruptive Fevers and Sore-throats," a title not afterwards employed. The Measles appeared among the children of the Foundling Hospital at the beginning of March 1770, and continued some time. In May, the Scarlatina and Measles seem to have occurred together, and to be distinguished, according to Dr. Morton's nomenclature, as follows;—"Measles," "Measles and Sore-throat" or "Measles and ulcerated Sore-throat," and Measles with "Putrid Fever." The denomination "Scarlet Fever and Sore-throat," first occurs in the weekly Report, 1st Sept. 1787. About the same time, in the prescription book appropriated to the Measles, a separate entry is made of Scarlatina, this generic title being at length applied, when the disease, after a dreadful ravage during two successive years, had fully

described by Sydenham, and though frequently occurring there, that they have not been fatal beyond the usual proportion. Thus, in the year 1798, 25 boys, and 44 girls, had the Measles: 6 of the latter died. In autumn 1800, 29 boys, 37 girls were affected, and 4 boys died of the disease, or its consequences. In 1794, 28 had the Measles, and all recovered. In 1802, 1 died out of 8 children affected.—Particular cases may occur wherein symptoms of putrescence appear during the latter stages; (pag. 237). Of such cases I have only noticed five, in a practice of 24 years: many practitioners, who have been established 50 years, have not seen them in a greater proportion: I never yet conversed with any one who had noted putrid Measles occurring epidemically.

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impressed the inhabitants of London with a knowledge of it's distinctive character, and peculiar virulence.

An author of great respectability, in the year 1751, has ranked the Scarlatina maligna as a malignant and putrid form of the Measles, which, "when it occurs epidemically, with a fore throat, inflammation within the chest, ulceration of the glands, strangulation, and sphacelus of the fauces", he thinks the most fatal of European diseases*. Another physician, cotemporary with Dr. Watson, has written a paper very similar to his, in the *Acta nova Ac. nat: cur:* (tom. VIII. p. 186.) on the malignant Measles, "*Morbilli malignè graffantes*", at Eifenach, between 1759 and 1763. He says, "*Vix unquam sine symptomatibus anginosi primus morbus fuit*": the other circumstances narrated agree with those of the Scarlatina anginosa, or maligna; and the remedy principally recommended

* Philip. de Violante, *De Morbillis*, § xiv. and xv. His general statement, which is applicable to the Scarlatina only, he has exemplified by a particular account, § xvi. *Hæc epidemia Viennæ Austriæ, anno 1732 visa fuit. Primò, febre valde acutâ, et inflammante, ægrotantes adoriebantur, et in primâ febris periodo Morbillorum eruptio apparebat: maculæ verò in hac corporis parte rubræ, in illâ pallidæ conspiciebantur, cum faucium inflammatione. 2dâ vel 3tiâ febris die sphacelus in faucibus aderat; alvus laxa erat; maculæ evanescebant; postremò ægrotantes brevi temporis spatio moriebantur, 3tiâ scilicet, vel ad summum 4tâ ægrotationis die.*

is Peruvian bark. This paper requires but little consideration, the author having fully expressed his sentiments, that the Measles and Scarlatina (Maafern and Röethe) do not in any respect differ from each other*.

The year after Sir William Watson's observations were published, Dr. Grant described the Scarlatina, which was still epidemic in London, under a new title, Angina erysipelatosa, as if it had been an unusual disease. He wrote, about six years afterwards, "An account of a Fever and Sore-throat, which began to appear in September 1776." This disease, he then observes, had been, with propriety†, called Scarlatina anginosa, yet he neither adopts that title, nor retains the name before given by himself, preferring another, Angina

* The same opinion is held by Ludwig, Tentamen de Febrium nat: et cur. p. 185. and by many other German writers. Some, however, consider the Scarlatina Febris, or Scarlatina simplex, as a distinct, independent disease, but rank the anginose, and gangrenous forms of it under the genus Rubeola, or sometimes under different titles. Sauvages himself has quoted in his nosology, at the article Rubeola anginosa, an epidemic, "Scarlet Fever and Sore-throat", so denominated Ed. Med. Ess. Vol. III. Pag. 26-7. Sennertus, and more than thirty other medical writers after him, have considered Scarlatina as a species of the Morbilli.

† Referring to Cullen's Nosology, published about that time.

mucosa, as more applicable. In 1777-8, Dr. Levifon, Physician to the General Medical Asylum, Welbeck Street, published a treatise on the same complaint, by him denominated an "Epidemical Sore-throat." It was sometimes, he says, without, sometimes with, a miliary, or scarlet efflorescence on the skin: and he adds, that in several instances "this disease was mistaken for the Measles, not only because the cough was an idiopathic symptom of the same, but because the efflorescence of the benign kind was very similar to that of the Measles, which were also epidemical at the latter end of August." Dr. Levifon considers "the Sore-throat as the genuine and principal disease", to which, in Autumn, he thinks "two other epidemics, namely, either the Scarlet, or Miliary, Fever, and a purging, like the autumnal Dysentery, were joined" incidentally, both of them being, in his opinion, unconnected with the primary epidemic Angina.—I have quoted these observations of a physician residing in the city of London, and of another in Westminster, as a further proof of the unsettled state of opinions and nomenclature respecting the Scarlatina, till after the year 1780.

The original writers on the Measles, who were all of the Saracenic school, have created no little confusion by describing the Small-pox and Measles as one and the same disease—a disease admitting, in their judgment, of some

some variation in it's form, and with symptoms more or less urgent in different cases. This error was transmitted by medical authors through eight or nine centuries. It is unnecessary here to review the primary accounts of the Measles, given by the physicians of Egypt and Arabia, since their observations from the year 600 to the middle of the 9th century, appear together in a curious tract published by Rhazes soon after the latter period*. The following specimen of their manner is taken from Judæus and George Bactishua: "Et signa Blactiarum (Morbilorum) sunt, febris acuta, vehemens, angustia, et murmuratio, et labor assiduus, disiccatio linguæ, sputum grossum, vox grossa et rauca, tempora elevata, ponderositas capitis et pectoris, impedimentum anhelitus, rubedo faciei, tussis, oculi rubicundi, lachrymæ, sternutatio, et nausea cum abominatione: et Blactiæ accidunt subito, et Variolæ successivè. Et Blactiæ, viridis, et violacei coloris, sunt malæ, et propriè cum apparent et absentantur subito, quia syncopizabit patiens cum tremore cordis, et velociter moritur."

Rhazes himself, though he considers the Measles and Small-pox as the same disease generically, and requiring a similar mode of treatment, has yet been more

* Rhaz. De Variolis et Morbillis, in Continent. Lib. XVIII. cap. 8. interprete Feragio Judæo, A. D. 1486.

anxious than any of his countrymen to point out their specific differences. The Measles, he observes, appear later in the fever, sometimes on the 9th day, or even after it, adding, "Cum vides in autumno dolorem lumborum cum febre, securus sis de Variolis, non tamen de Blactiis, quoniam cum Blactiis non est dolor lumborum..... Scias etiam quod Variolæ humidæ sunt, et Blactiæ aridæ et siccæ..... Et aliquandò apparent Variolæ similes Blactiis, et aliquis medicus dixit, quod Blactiæ vertuntur in Variolas. Et inveni quod differentia est inter has, quia Blactiæ sunt rubeæ, et apparent in superficie cutis sicut Ignis Persicus; (see Herpes, ORD. IV.) et non sunt profundæ eminentiæ, nec eminentes: et Variolæ habent eminentiam, ac rotunditatem; et acuas tu benè intentionem tuam super hoc; et cum hoc tibi non erit intelligibile, et sensui occultatum, non judices suprà ipsum quousque transeat dies septimus; et illæ quæ non sunt eminentes, non debent Variolæ appellari*"

There is not any trace, in medical history, of the origin or primary cause of the Measles. Aaron, a physician of Alexandria, cotemporary with Mahomet, and the first mentioned writer on this subject, does not speak

* Loc. cit. Compare Avicenna, Tom. II. page 74, and Haly Abb. Theorice, VIII. 14.

of the Small-pox and Measles as new, or unusual diseases. He considers them, especially when having a livid appearance, as highly malignant, and in other respects similar to the Anthraxes, or Carbuncles of the groin, axillæ, &c. which were often epidemical in the climate where he resided, and fatal within four or five days. Another antient author observes, (in libro de abbreviationibus) that "the Small-pox and Measles may be, at any time, excited by dead bodies putrefying and corrupting the air, but especially during the summer season, and in persons who have long omitted blood-letting." On these points Rhazes says he could not collect any thing satisfactory from his immediate predecessors*. He takes it for granted that the Small-pox and Measles were known to Galen more than 600 years before his own time, being misled by some incorrect translation of Galen's works into the Arabian language. The passages which he quotes have certainly not the least relation to the diseases above mentioned†. Indeed no description of them, nor the

* Nihilominus ex iis ne unus quidem est, qui memoravit causam ejus morbi efficientem, et quare eveniat ut illum vix effugiat vel unus mortalium.

† The mis-translated terms are, Phlegmonæ, Erysipelata, Herpetes, and Ionthi (pimples of the face), in Tr. I. de compos. med. sec. loc. De Prognos. a pulsib. Lib. II. and De usu partium Lib. IX.

slightest collateral hint, appears in the writings of the Greek physicians, which could lead us to suppose they had any knowledge on the subject. Some modern writers have held a contrary opinion, maintaining that Hippocrates and his successors applied to the Measles and Small-pox the denominations of Exanthemata, Ecthymata, Ecphymata, Eczemata, Erysipelata, Herpetes, Anthraces, &c. Now, some of these terms have been strictly defined, and in a way which admits of no such application; the rest are left indefinite, and although intended to express eruptive diseases generally, they have not been appropriated to any specific eruptions. A controversy founded on materials so slight and unsatisfactory, was carried on with ardour during a part of the last century, but need not at this time be revived when it is nearly consigned to oblivion.

ORDER

ORDER III.

II. SCARLATINA.

THE SCARLATINA* is characterized by a close efflorescence, of a scarlet colour, appearing on the surface of the body, or within the mouth and fauces, usually on the second day of a febrile disorder, and terminating in about five days, but without certainty of a crisis

* Nomina morbi varia, erronea sæpe, ineptaque, quibus eum medici quondam appellarunt, laudatis in scriptoribus invenire est, Scarlatinæ nomine, barbaro satis, a colore panni vulgò sic appellati, mutuato, civitatisque, ut videtur, in arte donato. Est febris acuta, exanthematica, rubras, easdemque latas, maculas proferens, organa deglutitionis non rarò impetens, epidermidis in desquamationem abeuns, et infamis præcipuè periodo suâ alterâ, unius, alterius, tertix, et ultrâ, septimanæ, quâ, tumore corporis vario, anxietate, debilitate, hominem non rarò in longè majus discrimen quam in periodo priore conjicit. De Haen. Rat. Med. Continuat. tom. I. c. 7.

The denomination Scarlatina was first applied to this disease by British writers: however offensive the term may be to a classical ear, it cannot well be displaced, having found admission into all the systems of Nosology. Another age will correct and refine the language now used on subjects untouched by the Fathers of Physic.

to the fever. This disease spreads rapidly, by contagion, among children, in whom the eruption often appears five or six days after they have been infected*. The susceptibility of infection is, however, very different in different persons; it also differs in the same individuals at different times. I have seen, in numerous families, one child have the Scarlatina without communicating it to any of the rest; yet, perhaps, in the succeeding autumn, several of them were infected by only passing near a patient recovering from the disease, or by touching those who had a little time before visited some person affected with it. Adults are not very susceptible of the contagion: several physicians and apothecaries of London have never felt its effects, notwithstanding their attendance on many hundreds in the disease, often under the most unfavourable circumstances.

The generic term SCARLATINA comprises three varieties, which may be denominated Scarlatina simplex, Scarlatina anginosa, and Scarlatina maligna.

1. SCARLATINA SIMPLEX. This form of the disease consists merely of the rash, and a moderate degree of

* Dr. Withering says, "I have repeatedly had occasion to observe, that it is upon the third or fourth day after exposure to contagion, that the patients begin to complain." On the Scarlet Fever and Sore-throat, page 61. See Heberden, Comment. de Morb. Page 20.

fever for three or four days, not being, like the two other species, attended with any local swelling, inflammation, or ulcer. The first symptoms are, general debility, nausea, and slight successive shiverings, terminated at length by considerable heat and thirst. On the second day, numerous specks, or minute patches, of a vivid red colour, appear about the face and neck: within 24 hours, a similar efflorescence is diffused over the surface of the body, likewise in the nostrils, on the inside of the lips, cheeks, and eye-lids, over the tongue, palate, and the whole fauces. These internal parts being red, the effects of the disease upon them do not perhaps attract attention till the high scarlet flush be produced. A studious observer can, therefore, best trace on the external surface the gradual progress of the rash. It is at first composed of innumerable red points (PLATE XXIII. Fig. 2. A.) with interstices of the usual colour of the skin. Most of these interstices are obliterated by a diffuse redness on the third day, and the efflorescence becomes almost continuous on the cheeks, and over the limbs, particularly round the fingers, assuming the full scarlet colour, which characterizes the disorder. Several papulæ (DEF. V.) are scattered on the back of the hand, breast, arms, and lower extremities. All that extent of surface is indeed rough like cutis anserina, but red and tense from the great quantity of blood distributed to the cutaneous

vessels, to the miliary glands, to the bulbs of the small hairs, and to the papillæ of the skin. See PLATE XXIII. Fig. 1. B.B.B.* and PLATE XXIV. Fig. 2. A.A. On the trunk of the body, the efflorescence is seldom universal, but either forms many separate patches, greatly diversified as to their size and outline (XXIII. 2.) or extends in ramifications, appearing somewhat like a reticular distribution of small vessels injected with wax, in an anatomical preparation. PLATE XXIV. Fig. 2. B.B. On the loins, and nates, and within the flexures of the joints, the scarlet colour is most strong, and general: in those situations it also remains the longest time. The rash is always less florid in the morning than at night, it's colour being highest on the third and fourth evening. On the fifth day, it begins to decline, the interstices becoming larger, and the scarlet hue less vivid†: (See Fig. 2, PLATE XXIII.) On the sixth day, it's appearance is very indistinct, and it is wholly gone before the end of the seventh.—Between the fourth

* In this Plate, Fig. 1, which was correctly drawn, represents the scarlet efflorescence not as an universal, uninterrupted flush over the whole surface of the body (*una continuata rubedo*, Dr. Morton, pag. 27), but under it's usual appearance on many parts, with intervals of skin-colour, C.C.C.C. having a very irregular form.

† At this time, and on the second day, when the efflorescence appears most in patches, the *Scarlatina* cannot be distinguished from the *Measles* without particular attention. See page 260.

and

and seventh day, there is often a scattered eruption of minute semi-globular vesicles (Def. X.) containing a thin pearl-coloured fluid. They rise on the temples under the hair, also on the neck, breast, and shoulders, succeeding one another without any certain order*. On the fifth day, a slight scurfiness sometimes appears about the temples, neck, or breast, but a more general separation of the cuticle† takes place on the eighth and ninth days. This process, when the rash has been very full, occasions the speckled appearance, represented (PLATE XXIII. Fig. 3. A.) Sometimes large pieces of the cuticle come off entire, more especially from the hands, fingers, and feet, a new cuticle having been previously formed underneath. There is likewise, on the limbs, an appearance as of round, white vesicles, which, however, on being opened, are seldom

* See PLATE XXIII. Fig. 1. A.A.A. Miliary pustules occur in almost every form of rash (see page 219.) From their occasional appearance in the Scarlatina, Vogel and Burserius have thought proper to establish a variety of this disease, entitled by them *Scarl. complicata*, or *pustularis*, *Inst. Med. tom. ii. § 62.* For the *Scarlatina variolosa* of Sauvages (*Nosol. Meth.*) there is no better foundation.

† *Maculis demum evanescentibus, decedenteque subjectâ cuticulâ, restant furfuraceæ quædam squamulæ, ad instar farinæ, corpori inspersæ, quæ ad secundam aut tertiam vicem se produnt, conduntque vicissim.* *Syd. Sect. 6. cap. ii.*

found

found to contain any fluid. These have been noticed by many authors*, and may, I think, be thus explained.—When the larger papulæ subside by the great contraction of the cutaneous vessels at the decline of the efflorescence, the portions of cuticle suddenly raised up at their formation, and detached from the former points of adhesion, cannot contract along with them, but remain prominent for a short time, and then fall off in scurf†.

The pulse, during the eruptive stage of the *Scarlatina simplex*, is usually very quick and feeble. The

* See Plenciz. Tract. de Scarlatinâ; Rosenstein, on the Diseases of Children, Chap. xvi. London Med. Journal, vol. X.

Vesiculæ ampliores, vacuæ tamen, bullas a combustione repræsentantes exsurgunt. S. P. de Meza, Compend. Med. Pract. pag. 59.

“ In one man, when the scarlet of the skin was turning brown, several white blisters arose upon different parts of his hands and feet, which, when cut open, appeared quite dry; but in a boy who had similar blisters, some of which were cut in a few hours after their appearance, a thin, pellucid, watery fluid, was discharged.” Withering, on the Scarlet Fever and Sore-throat, page 21.

“ In several instances, an eruption of white blisters succeeded their recovery. This form of the disease has been called by Sauvages, *Scarlatina variolosa*.” Prof. Rush of Philadelphia, Medical Inquiries and Observations, pag. 123.

† The bases of these supposed vesicles, as they appear after desquamation, are represented, PLATE XXIII. Fig. 3. B.

tongue

tongue exhibits, on it's upper surface, a whitish fur, through which the elongated papillæ extend their scarlet points; the sides of the tongue are of a darker red colour. The urine is clear, and of a bright straw colour. The face is considerably tumefied. In some cases, the scarlet efflorescence may be observed on the tunica albuginea, when the eyes appear red, bright, and humid, but without any material increase of the lachrymal secretion. There is usually great restlessness, with a sense of itching or tingling in the skin, and often a slight delirium. These symptoms continue with more or less violence from three to seven days. A few patients escape without fever, pain, or any particular uneasiness*.

Although the Measles and Scarlatina are now known to arise from different modes of contagion, yet so many authors have considered them as varieties of the same disease, that it may be allowable in this place to recapitulate their diagnostic characters.

* Alii postquam levissima hujus morbi signa per biduum experti sunt nullò negotio convaluerunt, Heberden, Comment. p. 23. Compare Sydenh. p. 6. 2. De Gorter Prax. Med. II. 196. Prosp. Martian: in Hipp. Epid. L. II. S. 3.

1st. The efflorescence in Scarlatina generally appears on the second day of fever; in the Measles it is seldom visible till the fourth.

2dly. It is much more full and spreading in the former disease than in the latter, and consists of innumerable points and specks under the cuticle, intermixed with minute papulæ, in some cases forming continuous irregular patches, in others coalescing into an uniform flush over a considerable extent of surface. In the Measles, the rash is composed of circular dots, partly distinct, partly set in small clusters or patches, and a little elevated, so as to give the sensation of roughness when a finger is passed over them. These patches are seldom confluent, but form a number of crescents, or segments of circles*, (see PLATES XX. XXI.) with large intervening portions of cuticle, which retain their usual appearance. The colour of the rash is also different in the two diseases, being a vivid red in the Scarlatina, like that of a boiled lobster's shell; but in the Measles a dark red, with nearly the hue of a raspberry.

* In Scarlatina, when any part of the rash has a tendency to circular forms, the circles are usually completed. See PL. XXIII. Fig. 2. B.B.B. Sometimes the circumferences of these circles intersect each other variously. PL. XXIV. 2.

3dly. During

3dly. During their febrile stage, the Measles are distinguished by an obstinate harsh cough, forcing up, in repeated paroxysms, a tough, acrimonious phlegm,—by an inflammation of the eyes and eyelids, with great sensibility to light,—by an increased discharge from the lachrymal gland, sneezing, &c. The Scarlatina is frequently attended with a cough, also with redness of the eyes from an extension of the rash to the tunica albuginea, circumstances which render the distinction between this complaint and Measles particularly difficult, if other symptoms be not clear and decisive. On minute observation, however, it will be generally, perhaps always, found, that the cough in Scarlatina is short and irritating, without expectoration; that the redness of the eye is not attended with intolerance of light; that the ciliary glands are not affected; and that, although the eyes appear shining and watery, they never overflow.

4th. Most writers on the subject, in distinguishing Scarlatina from Measles and other eruptive complaints, observe that there is a peculiar sensation of anxiety, depression, and faintness, in all cases of it which are attended with fever.

5th. When the rash appears on the third or fourth day, being scattered, and of a dark shade of colour,

as frequently happens in the two latter varieties of Scarlatina, the disease may be distinguished from Measles by the appearances in the throat, by the rigidity of the muscles of the neck, and other peculiar symptoms hereafter to be described.

2. SCARLATINA ANGINOSA. In this species of the disease, there is superadded to the fever and efflorescence, a considerable swelling of the tonsils, velum pendulum palati, and uvula, accompanied with a florid redness of their whole surface, often terminating in numerous flight ulcerations. The Scarlatina, principally under this form, was, in London, the leading epidemic of the year 1786. It occurred in 1785 sporadically, as usual, from about the middle of March to the end of November, and then ceased till the month of May ensuing. During that interval, there was a more general diffusion of the Measles than had been observed for many years before. They first appeared in the eastern confines of the city, and afterwards spread from thence rapidly through Westminster, and all the adjacent villages. The Scarlatina simplex, and anginosa, recommencing in May, followed nearly the same course as the Measles, and were not frequent in Westminster till September: in the course of the next three months, the most unfavourable species of the disease was diffused over that quarter of the metropolis,

tropolis, and very often proved fatal. Cases of Scarlatina, during the year 1786, exceeded in number the sum of all other febrile diseases within the same period. Since that time, the disease, occurring annually, has had a different extent, and shewn different degrees of virulence, in different years, but without any material variation of its form.

The primary febrile symptoms of the Scarlatina anginosa are the same as those mentioned page 255, but more violent. The affection of the throat sometimes begins with the fever, at other times is not perceptible till the scarlet efflorescence has arrived at its height: most frequently it is felt when the rash appears, and increases and declines with it. A sudden sensation of stiffness in the muscles of the neck and lower jaw takes place at the beginning of the disease. On the second day of fever the throat is rough and straitened, the voice becomes hoarse, and deglutition is performed with pain and difficulty. These symptoms are attended, on the second, third, and fourth day, with nausea, vomiting of bile, headach, delirium *, restless-

* "In Febre rubra, ægri vel ipso primo die delirant; atque interdum, licet omni alio periculi indicio vacent, tamen non cessant aliena loqui, singulis noctibus, ab initio morbi usque ad finem." Heberden, Comment. page 19.

"The tendency to delirium prevailed in proportion to the intensity of the redness in the eyes." Withering, pag. 16.

ness, and great heat*, with a feeble fluttering pulse, a quick respiration†, and extreme languor or faintness. On examining the throat, there appears a considerable enlargement of the tonsils, and a florid redness of their surface, which extends over the palate, it's velum pendulum, the uvula, and posterior part of the fauces. The tongue also assumes a high red colour, and the papillæ over it's whole surface are greatly elongated. The representation (PLATE XXIV. Fig. 1.) will afford a clearer idea of it's appearance than can be given by verbal description. In some cases, no further change is observable in the fauces, neither do the appearances above mentioned continue beyond the 5th or 6th day. No deep or considerable ulcer forms in the tonsils‡. Slight superficial

* The heat of the skin is such as to raise the thermometer to 112°. The patient's breath seems also to be felt hotter by the attendants, in this disease, than in any other fever.

† "The breathing was short, and often interrupted by a kind of imperfect sigh." Withering, pag. 15.

‡ Dr. Withering says, "I never saw any real ulcerations in these parts, but sometimes collections of thick mucus, particularly on the back of the œsophagus, greatly resembling the specks or sloughs in the putrid Sore-throat; but these are easily washed away by any common gargle." He allows, however, that "during the autumnal season, some patients threw out several white or ash-coloured sloughs, though no such sloughs were visible

cial ulcerations are very frequent, and more especially at the latter end of the year. They occur at an early period of the disease, as on the 2d or 3d day: when they are later, an opportunity is afforded of marking their progress more distinctly. The formation of them is preceded by a very quick and unequal pulse, with lowness, and great inquietude. Small white patches are then visible over the velum pendulum palati, and the tonsils; at the same time, the red colour in those parts becomes darker in some places than in others, so that the whole surface has a peculiar speckled appearance. Soon afterwards, fissures, or excoriations, take place at the centers of the white patches, which are almost immediately covered with whitish sloughs. When these are numerous, the fauces are constantly clogged with a large quantity of tough, viscid phlegm: hence the difficulty of swallowing is increased; and much pain is felt from pressure externally applied. The sloughs are, in some cases, removed about the 5th or 6th day, at the decline of the efflorescence; in other instances, they continue to the 8th day, or even later, and when they separate, partial excoriations remain, which may, however, be readily healed.

visible on inspecting the throat; and that "in most, the fauces, particularly the tonsils, were covered with them, and upon their separation, looked raw, as if divested of their outer membrane." Page 24.

The

The efflorescence differs in a few particulars from that described under the article *Scarlatina simplex*.

1st. It does not appear so early in the disease, but is often delayed to the 3d day *.

2d. It does not so constantly extend over the surface of the body, but comes out in scattered patches on the back, sides, neck and breast, or about the joints†. Fig. 2. PL. XXIV. represents it's distribution on the arm.

3dly. It sometimes wholly vanishes the day after its appearance, and re-appears, partially, at uncertain times.

Hence 4thly. The whole duration of it is longer than in the *Scarlatina simplex*; and the mode of desquamation is less regular‡.

These

* In aliis hic color non nisi quarto morbi die in conspectum venit. Heberden, pag. 22. Withering, pag. 16, 18.

† Interdum pectus, et brachia solummodò rubent; et non rarò vidi exteriorem carpi partem levi rubore suffusam, cujus nusquam alibi reperiri vestigium potuit. Heberden, Comment. page 17 and 22. Withering, pag. 20.

‡ See Dr. Rush, pag. 120. According to De Haen, cuticular exfoliations take place successively, often in large pieces, from the 16th to the

40th

These variations are most frequent during the autumnal and winter months, when the disease is in general most severe. Other symptoms occur, at the same period of the year, in addition to the usual series. Dr. Sims* observes that, in the autumn of 1786, "A frequent, short, hicking, cough took place in several patients: they did not bring up any matter with it, nor did each fit last beyond one or two short expectorations, but these were repeated several times in a minute: many who had no appearance of pituita, and but the slightest possible appearance of angina, had this cough more troublesome than those who had much of either. Another circumstance, in the months of November and December, was, that a few days after the apparent change of the disorder, a swelling attacked the face, but more frequently the extremities, attended with most excruciating pain. This swelling was neither red, puffy,

40th day. He also mentions the cracking and separation of the nails. Rat. Med. Contin. I. 71.

Whenever the rash is slight, or when it suddenly disappears, there is seldom any desquamation, and in this case, the disease either terminates fatally at an early period, or has a very troublesome sequel. The same observation was formerly made respecting the Measles. See pag. 240.

* Memoirs of the Medical Society of London, Pag. 405. See Dr. Heberden, Comment. p. 20.

nor

nor œdematous, and did not depend on the previous mode of treatment, as it occurred in those who had been treated in the most different manners. Some first complained of a violent toothach: after two or three days they complained of an equally violent pain in the back, the first one gradually subsiding. In a day or two more, or even sooner, the pain attacked their elbows, wrists, and hands, which were usually the parts last attacked*. These pains, in some patients, were only in the hands and arms. In one child, the Scarlet-fever appeared without any angina, and having finished its course, left the patient seemingly in perfect health: but in a few days the fever returned without any eruption, but with a very considerable degree of sore throat, and much pain and swelling of the tonsils and parotids, which likewise ran its course as if the former symptoms had never appeared."

Although no uneasiness is, in general, felt in the throat, previously to the febrile symptoms or efflorescence, it would yet appear, on inspecting the fauces of

* According to Dr. Withering (pag. 23) "These swellings had sometimes a reddish shining appearance like the gout." He adds, "The eyes did not, in autumn, bear the light, though they had less of that redness described before (see above page 259), but still a slight tinge of it was visible, together with something of the shining watery appearance, which is so remarkable in the Measles"

persons exposed, that the contagion had been acting on them many days before the commencement of fever. It's action is denoted by a dark red line, extending along the velum pendulum palati, and lower part of the uvula. Dr. Sims* says, "In many families, where some have been confined with the disease, I have had an opportunity of observing the first, and most minute, approach of it in others, and there always found that the first marks of its approach were a paleness and dejection of countenance; and if the fauces were inspected, the under edge of the velum pendulum palati was considerably redder than natural. The pulse, at this time, was rather disturbed and flurried than feverish: in some the uvula was more inflamed, and the tonsils a little swelled, so as to give a slight degree of pain in swallowing: this pain and inflammation, however, varied on different days, so as to give frequently hopes of the disorder going off entirely; and I have reason to think that it often did go off, under a treatment hereafter mentioned, without ever gaining greater ground. In very many, however, after remaining in this uncertain variable state for several days, sickness and vomiting came on suddenly, and the disease was completely formed."

* On the Scarlatina anginosa of 1786, "Memoirs of the Medical Society," Vol. I. Pag. 394.

Nearly the same observations were made by my friend Dr. Binns, while superintendent of Ackworth school, Yorkshire, where the Scarlatina, in 1803, affected the greater part of the children. "There are many incipient cases of the disease, in which the throat is moderately affected with swelling of the tonsils and erythema of the neighbouring parts,—the papillæ of the tongue, more especially at and near its tip, are enlarged, prominent, and of an intense redness, and the pulse is from 96 to 108. Several of these cases have remained, with very little variation, for two or three weeks, some for a month. In some again, the appearances have wholly gone off* in ten days or a fortnight, while, in others, the fever has at that time increased, the scarlet eruption has become very general, and the disease arrived at its crisis in about ten days more."

Those who have formerly had the disease, and also those who are just recovering from it, if exposed to the contagion, are very liable to be affected in the manner above described, but with no other symptom of fever than a quick pulse. They are, however, pale and languid, and have often an appearance of red

* Those persons on whom the effects of contagion thus cease, or have been removed by early applications, are not less liable to take the disease in its fullest form, when again exposed to its influence. See above page 254, 269, and Dr. Blackburne, On Scarlet Fever, page 25.

specks or patches, like flea-bites, on the breast and abdomen, and sometimes a purple eruption of greater extent. Dr. Binns observes, "Notwithstanding that this is usually a secondary appearance, at the distance of two, three, four, or even five weeks after recovering from the first attack, yet some are affected in this way at first: I remember a boy, who died, came to me in consequence of such an eruption, not making any complaint otherwise; but, on inspecting the fauces, I found further symptoms of the disease. He died on the tenth day from his application."

During the state of extreme debility which usually succeeds the Scarlatina anginosa, some patients are affected with anasarcaous swellings of the face and hands, but more especially of the lower extremities*. The swelling becomes conspicuous about the eighth or tenth day from the disappearance of the rash, and continues for two or three weeks. In cases exhibiting a very full and vivid efflorescence, the anasarca takes place more frequently, and to a greater degree. When the throat is much ulcerated and the rash not extensive, and when no desquamation succeeds (page 267), anasarcaous swellings rarely occur. I do not remember to have observed any considerable effusion of water into

* Dr. Sims says, "I saw but four cases of Anasarca succeed the disorder; and these were all in poor persons, and unattended with danger."

the cavity of the abdomen, thorax, or pericardium, nor into the ventricles of the brain*, an effect which many practitioners, and medical writers have noticed. However, two of my patients, who had been in a very weak state before the fever, died hectic, with anarcous swellings of the limbs. These were the only fatal cases I ever saw of Scarlatina anginosa retaining the form above stated.

An enlargement of the parotid glands happens frequently in adults, and continues a long time without suppurating. Children, at every period of the disease, are liable to tumors both of the parotid and submaxillary glands, sometimes ending in tedious and painful abscesses†. With these they have, during the

* The occasional termination of this disease in a sudden phrenzy, I have remarked in another work. (On Diseases in London, pag. 47.)

† "The swelling of the parotid glands was sometimes apparent in the beginning of the complaint, at other times it came on about the fifth day with great pain, protracting the disease: and in many it came after the efflorescence had entirely disappeared, bringing it, in some degree, and all the feverish symptoms back with it. Though this swelling was attended with great pain, I did not see one case of its suppurating. I should mention here, that both in the cases attended with the pains already mentioned, and those with the parotids, the pulse was more violent and inflammatory than in any other cases." Dr. Sims, p. 407.

After

the latter stage of the complaint, ulcerations at the corner of the mouth, strumous ophthalmia, swelling of the upper lip, and purulent discharges from the ears, sometimes accompanied with deafness: They are also subject to pustules or small ulcerations of the tongue, which prove troublesome for some days, but without any serious consequences *. In one instance, the disease terminated by a swelling of the testicle †.

During every epidemic Scarlatina, many cases occur in which the efflorescence is confined to the throat

“ After the fever ceased, it was not uncommon to have abscesses form on one or both sides of the neck, under the ears; but the matter easily discharged itself through the ruptured teguments, and they healed in a few days without much trouble. Withering, 18. and pag. 24.

* “ No symptom was more troublesome to some individuals, than ex-ulcerations at the side and down towards the root of the tongue, which were so painful as to deprive them of the power to take solid food, even several days after the inclination for it had returned.” Dr. Withering, on the Scarlet-fever and Sore-throat, pag. 24. He adds, “ I have been told of several cases that were followed by a succession of boils upon different parts of the body.”

† Dr. Heberden has observed, *Neque vero testiculi semper fuerunt liberi a tumoribus.*

and

and mouth, there being no appearance of a rash on the skin *. The febrile symptoms, vomiting, and delirium, continue violent for several days. A crimson colour of the throat is perceptible often before the fever commences. In the course of it, numerous small specks of ulceration are formed on the tonsils, &c. and become in many places confluent, when the increased secretion of phlegm, the tumour, pain, and difficulty of swallowing occasion great distress. This complaint seems peculiar to adults, and is evidently a species of Scarlatina, because it affects some individuals of large families, while the rest are labouring under other forms of the Scarlatina, and because it is capable of communicating, by infection, all the varieties of that disease. It is sometimes succeeded by an enlargement of the parotid glands, but not, according to my own observation, by dropical swellings. Persons who have previously gone through the Scarlatina anginosa, experience, while conversant with the sick, very uneasy sensations in the throat: in some there is a swelling, and inflammation, or ulceration, of the tonsils, producing considerable pain and irritation, but without the specific fever and efflorescence.

* Quidam, sine cutis efflorescentiâ, aut ejusdem desquamazione, satis severâ afficiuntur anginâ: attamen hi mitius quàm qui simul Scarlatinâ correpti ægrotabant apud nos. (Havniæ 1777-8.) De Meza, Compend. Med. Pract. t. I. pag. 58. Compare Dr. Sims, pag. 413. Dr. Withering, pag. 22. Memoirs of the Med. Society, London, vol. III. pag. 358.

3. SCARLATINA MALIGNA. Its symptoms, on the first day, are nearly the same as in the Scarlatina anginosa, but some of the following peculiarities are afterwards observable :

1. A small, indistinct, and irregular pulse ; a brown or black incrustation of the tongue, teeth, and lips* :

2. A dull redness of the eyes†, a dark-red flushing of the cheeks, deafness, delirium, or coma alternating with fretfulness and violence :

3. Breath extremely fetid ; a rattling and laborious respiration, partly occasioned by a thick tough phlegm clogging the fauces ; a constriction of the jaws, and painful deglutition ; a fulness and livid colour of the neck, with retraction of the head :

4. Ulcerations on the tonsils, and adjoining parts, covered with dark sloughs, and surrounded by a livid base‡ : the tongue is often so tender that a slight touch produces excoriation :

5. An

* Huxham, On Fevers and Sore-throat, pag. 110 and 112. Withering, p. 18.

† “The eyes were heavy, reddish, and as it were weeping.” Huxham, pag. 110. “Eyes inflamed and watery, or sunk and dead.” Withering, pag. 56.

‡ The aversion to swallowing is occasioned by the soreness of these ulcers, not by any tumor, or obstruction in the passage. “Cibi et medicamenta

5. An acrid discharge from the nostrils, causing forenefs, or chops, and even blisters, about the nose and lips, the fluid discharged being at first thin, but afterwards thick and yellowish :

6. The rash is usually faint, excepting in a few irregular patches ; and all of it presently changes to a dark or livid red colour*. It appears late, is very uncertain in its duration, and often intermixed with petechiæ, (see PL. XXIV. Fig. 3). In some instances, the rash suddenly disappears a few hours after it is formed, and comes out again at the expiration of a week, continuing two or three days : in one case numerous patches of it appeared a third time, on the seventh day from the second eruption ; these remained for two days.

medicamenta respuuntur, neque tamen ideo quia devoratio molesta est, quæ sæpe ad mortem usque, quod miratus sum, satis facilis manet, quamvis fauces sordidissimis ulceribus fuerint undique circumtectæ, et spiritus penè interclusus." Heberden, Comment. p. 23. He thinks the ulcerations may, in these cases, extend along the trachea rather than down the œsophagus.

* "Their whole skin, instead of the scarlet, assumed a very remarkable appearance, which resembled nothing so much as that of a dead body which has been kept several days, or as if a mixture of blood and water were universally diffused under it, and could be seen through it." Dr. Sims, p. 410.

When

When the Scarlatina spreads widely, it exhibits, in the different persons affected, every gradation of appearances, from the slightest to the most malignant form of disease,—yet during its diffusion through some large families and schools, I have seen it uniformly retain the series of symptoms which occurred in the first patient, with nearly the same degree of fever.—In the autumn of 1786, and occasionally since that period, the Scarlatina maligna, as above described (p. 275), affected the inhabitants of several districts, in London, comprizing narrow courts, alleys, and close crowded streets; and afterwards extended to some adjoining villages, in low, damp, or cold situations. It is, however, more frequently intermixed with the other varieties of Scarlatina, and it sometimes unexpectedly supersedes the milder forms of the disease, on the fourth, fifth, sixth, or seventh day of their course*. Patients who withstand the violence of it's first attack, have nevertheless to struggle through a series of most untoward circumstances†, continued far beyond the usual febrile period. The ulcerations

* See Dr. Grant on Angina maligna, II. 125, and Dr. Sims, page 410.

† In Scarlatinâ malignâ quid putridi latet, unde pulsus parvus, celer, urina pallida, ulcera apthosa, nec non parotides, quamvis suppurantes, lethales, observantur. Sic in Epidemiâ Havniensi, per quatuor hebdomadas, si non primis morbi diebus suffocati, languentes tandem peribant. De Meza, tom. I. page 59.

gradually spread from the fauces to the œsophagus, larynx, and trachea. Violent pains of the bowels, and excoriations about the nates, succeed; also hectic paroxysms, with suppuration of the glands, a teizing cough, great difficulty of breathing, pains in the side, and a remarkable alteration in the sound of the voice*. A few recover after having been thus harassed, almost incessantly, for six or eight weeks. In 1786-7, more than two-thirds of those who were affected with the *Scarlatina maligna*, died between the seventh and nineteenth day of the fever. The symptoms portending danger were, continued coma, dulness of the eyes, laborious breathing, diarrhœa, petechiæ, vibices, and hæmorrhagy. A case terminated fatally on the sixth day, in which there were vesications on the hands, legs, insteps, and toes, as if boiling water had been poured on those parts, or large blisters had been applied to them. The patient was an adult female, who had a very full efflorescence. It may be observed, that the degree of danger in the complaint does not depend on the greater or less extent of the rash on the skin: the fullest redness affords no decided security, nor is the total absence of it incompatible with a mild disease (see page 274). In one infant, about the eleventh day, a considerable erysipelatous swelling affected the left cheek, and within three days produced

* Dr. Withering, page 22-3.

a deep gangrenous eschar. The wrists at the same time became rigid and contracted, and the patient died on the sixteenth day of the disease. Another child, eight years old, was affected, on the seventeenth day, with an erysipelatous swelling* under the left eye, and died on the following day. It will appear from authors hereafter quoted, that there has often occurred superficial gangrene in other parts of the body, as about the nates and genitals, likewise on the tongue, gums, and insides of the cheeks, sometimes attended with caries of the jaw-bones.

Many patients sink under this disease, unexpectedly, at a very early period, as on the second, third, or fourth day, no symptoms having preceded which could excite an apprehension of immediate danger. It has been thought that so sudden a mortality is owing to a gangrenous state of the fauces, œsophagus, stomach, intestines, or lungs†; this opinion

* See a case of this kind which terminated favourably. Rep. on Diseases in London, pag. 78, 83.

† Nisi ægro statim in primo morbi impetu succurratur, escharæ gangrænosæ in fundo faucium, versus arcus, et velum palati, superveniunt, et hisce ortis pauci emergunt. Hæc gangræna œsophagum, asperamque arteriam sæpe ante occupat, quam illam percipere, illique mederi queamus. Navier: See Comment. de reb. P. 1. vol. IV. 338.

Dr. Heberden observes, “ Inspectis faucium crustis, conjectura quædam

nion seems to be confirmed by dissections*. Sometimes, at a much later period of the disease, when the fever has been slight, and no alarm excited, the symptoms mentioned page 275, commence almost instantaneously, and terminate the patient's life in a few hours. Such a termination took place within four hours, in a girl six years old, on the 14th day of the Scarlatina. She had specks in the throat, with swellings of the submaxillary glands, and a degree of fever so moderate that she had not been confined to bed, nor even to the house, till the time mentioned. In the cases which terminate fatally within forty-eight hours after the accession of fever, it must be concluded that the throat had been long affected in the manner stated page 269, and that the poison had gradually pervaded the whole constitution: hence the sickness, shiverings, languor, and insensibility, do not, in such instances, denote the commencement of fever, but are the final symptoms of an insidious and most virulent distemper†.

It

feri potest de periculo ægri, quod eo majus erit quo latius illæ manent, quo altius carnibus insideant, quo hæreant pertinacius, quo sæpius renascantur, et magis in gangrænam spectent. Conditio tamen harum crustarum index est, non autem causa, periculi. Comment. pag. 22.

* Sennert. Pract. Med. L. IV. cap. 12. Heberden, Comment. pag. 24.

† So Dr. Binns: "This insidious disease is often acting on the constitution, particularly on the throat, while the persons affected are wholly unapprized

It is truly singular, that the slightest of all eruptive fevers, and the most violent, the most fatal disease known in this country, should rank together, and spring from the same origin. Experience, however, decides that the simple Scarlet Fever, the *Scarlatina anginosa*, the *Scarlatina* (or *angina*) *maligna*, and the scarlet ulcerating Sore-throat without the efflorescence on the skin, are merely varieties of one disease*. That all of them proceed from the same source of contagion, is evident; because, under the same roof, in large families, some individuals have the disease in one form, some in another, about the same period†.

unapprized of it; for dreadful languor, sickness, and vomiting, have in several cases occurred a few hours after the patient began to complain". Compare *Med. Obs.* VI. p. 116, & Dr. Blackburne on Scarlet-Fever, p. 42.

* "The affection of the throat has occurred with us in every possible state; mere erythema, sometimes with a swelling of the tonsils; aphthous specks; deeper ulcerations, with white sloughs; ash-coloured sloughs, which I consider as gangrenous; also darker coloured sloughs with extreme fœtor. The rash has also varied considerably, being sometimes an almost universal entire redness, sometimes appearing only on the neck or breast, and not so generally diffused, but with interstices, so that it was rather difficult to ascertain where the colour terminated. Petechiæ have very seldom been observed; and the rash has not appeared of a livid hue in more than two or three cases, except just before death." Dr. Binns.

† See Rosenstein, *On the Diseases of Children*, chap. 16. *Memoirs of the Medical Society*, vol. III. p. 358. Compare *Withering*, pag. 5, and *Dr. Heberden*, *Comment.* pag. 25.

According

According to the state of the air, the soil, climate, or season of the year, one form predominates over all the rest, and gives the general character to every epidemic Scarlatina. Hence arise the various accounts and opinions respecting it, which are to be found in medical writers*. The malignant species of the disease is most rare, and usually limited to the winter months. It exhibits some peculiar appearances, and is often attended with only a partial or obscure eruption. On these accounts, perhaps, it has been separated from the rest, and been improperly considered as a distinct genus of disease. Several practitioners, with whom I have conversed, would yet retain the distinction, stating that they had observed this species of Sore-throat, with a vivid eruption, occur in persons who had previously undergone the simple Scarlet Fever,—and thence concluding that the two diseases were generically different, or that Scarlatina may be had twice under the same circumstances as the Measles: see page 235. Not having ever seen such a repetition among two thousand patients whom I have visited in it, I cannot at present confirm the above opinion, and should be very unwilling to add to the numerous mistakes already made respecting the disease. On this subject Dr. Binns says, “I have not, during the prevalence of Scarlatina this year, seen

* See De Haen, Nat. Med. Contin. tom. I. p. 138.

the Fever and Scarlet eruption occur twice in the same patient, nor have I seen the rash appear at one time, then after an interval, the Sore-throat; but we were informed by some eminent practitioners, that several children, affected here in 1803, had gone through the disease before; and I recollect, during my practice at Liverpool, instances of the Scarlet Fever and ulcerated throat occurring, together, twice in the same person, and in one patient thrice, at distant periods, but I cannot speak with any certainty of the intervals, nor have notes to which I can refer for the particulars of each case."

Dr. Withering, at the time of publishing the first edition of his pamphlet, believed that the Scarlatina anginosa, and the ulcerated Sore-throat ("Angina gangrænosæ of Fothergill and Huxham") might attack the same individual at different periods. In the second edition (page 4) he acknowledges this opinion to be erroneous, and adds, "Further observation, aided by the concurrent testimony of many of my colleagues in this place engaged in extensive practice, confirm me in the opinion that the infection of the Scarlatina anginosa, like that of the Measles and Small-pox, can only be taken once: that it is not generated under any known circumstances like the poison of the Typhus or Low Fever, but that it is from time to time propagated by contagion like the other Eruptive Fevers, just

just now mentioned." Page 3 and 6. He repeats the same observation, page 53, "I never yet have seen an instance of the same person having the Scarlet Fever twice, and I believe it to be as great an improbability as a repetition of the Small-pox*."

At what time, or in what place, the Scarlatina first appeared, is very uncertain. It was probably introduced into this country from the ports of the Levant, or Mediterranean. Its origin might be referred particularly to Egypt, if the "Pestilential ulcers of the tonsils" described by ancient authors, and the Scarlatina maligna could be proved to be the same disease. That they do not materially differ from each other, many practitioners have been convinced by an attentive consideration of the following passages in Aretæus and Aëtius: "The Pestilential ulcers of the throat are broad, hollow, smooth, and covered by a white, or livid, or black slough (*σπινταγω*). These ulcers have the name of Aphthæ; but if the slough be deep, the affection is properly called Eschara. All around the Eschara there is an intense redness, and inflammation, and throbbing, as in a carbuncle; also small papulæ (*διεξανθηματὰ*), which arise at a distance from each other,

* Thus Rosenstein, "I have never heard of its seizing any one more than once." Ch. XVI.

but

but which, gradually increasing in number, become confluent, and produce a broad ulcer. Then if the disease proceed towards the mouth, it reaches the uvula, which it destroys, and is spread over the tongue, the gums, and fræna of the lips; the teeth are loosened and blackened, and the neck is externally swelled and inflamed: thus, in a few days, the patients sink under the inflammation, fever, offensive smell, and aversion to food: but if it proceed into the chest, through the trachea, it occasions immediate suffocation.—Boys and girls, under the age of puberty, are most subject to this complaint. It is chiefly produced in Egypt, and may be referred to the great dryness of the air of that country, the variety and acrid nature of the food used by its inhabitants, the fermented liquors, and thick water of the Nile, which they are accustomed to drink. Syria, more especially Cœlo Syria, likewise produces these ulcerations, whence they are called Syrian as well as Egyptian ulcers.—The mode of death is most miserable. The pain is acute and hot, as in a carbuncle; the breath offensive, having a strong, putrid smell; and the tainted air is drawn back into the chest by the patients' laborious respiration. Losing their power over the sphincters*, they cannot bear their own

* *Ασπερι*: Petit and others read *ασπερι* (fastidiosi, nauseabundi), which does not suit the context. A better reading would be *αξηρι*:—when the discharge from secretory organs ceased, or became very scanty, the com-

own stench. Their countenances are pale or livid; they have violent paroxysms of fever, with thirst as if burnt, and yet decline drinking on account of the pain it occasions; for they are greatly distressed whether the liquor force a passage by compressing the tonsils, or run up into the nostrils. They are restless, and uneasy in every position. Their inspiration is deep, from a desire of being cooled by the cold air, but the expiration is restrained, because the burning ulcers are still more inflamed by the heat of the breath. Hoarseness, and loss of voice succeed, and the symptoms becoming more violent, the patient suddenly falls dead to the earth."—Aretæus De Morb. Acute. I. 7.

Aëtius observes, that "Sloughy and pestilential ulcers of the fauces begin for the most part without any preceding defluxion, but that they are sometimes consequent on an aggravated state of the usual inflammation of the tonsils"; that "they take place mostly in children, and in virgins at the age of puberty, but now and then affect adults, especially those of a bad habit of body, in the pestilential constitutions of the spring

plaint was termed *voros ξηρος*: for a list of these diseases see Galen De Ptisanâ. Patients labouring under the opposite state,—of increased and vitiated secretions, might in the quaint language adopted by Aretæus be called *αξηροι*. The accepted reading *ασχηροι*, in whatever sense it be taken, is too figurative for historical detail.

season";

feason"; that, "in children, aphthæ generally precede the formation of the floughs"; that, "some of these are white like spots (*σπιλοι*), others ash-coloured, or resembling the eschars made by a cautery"; that "they are very soon followed by a dryness in the patient's throat" (*περι την καίωπτον*); and that "he is seized with a sudden suffocation (*αδρεος πνιγμος*), more especially when there is an erythema under the chin"; or, "the same acrimony turning inwards"*, that a "noma and putrefaction succeeds in the parts affected"; that "the attending fever is vehement"; and that "the principal danger occurs in the first seven days"; but that he knew "a young girl who died of the disease, or its consequences, even after the fortieth day†."

Some

* *Παραδρομησης*, should perhaps be the technical term *παλινδρομησης*. See Foes. *Æcon. Hippoc.* and Gorraei *Defin. Med.*

† Pag. 162. Ed. Aldi.—With the two preceding accounts may be compared Tournefort's description of this disease, as observed, fifty years ago, in the same climate (*Voyage du Levant*, Tom. I.) "Il regnoit dans l'isle de Milo une maladie tres fâcheuse, et qui est assez commune en Levant, ou elle emporte les enfans en deux fois 24 heures. C'est un charbon dans le fond de la gorge, accompagnè d'une cruelle fièvre: Cette maldie, que l'on peut nommer la peste des enfans, est epidémique, quoique elle épargne les grandes personnes.—Le cas est pressant—et la precaution la plus necessaire pour arrêter les progrès d'un si grand mal est de faire vomir les enfans dès le moment qu'ils se plaignent du mal de gorge, ou

Some authors * suppose the Al-hemeka, mentioned by Avicenna, to have been the Scarlatina simplex; but no certain conclusion can be drawn from his brief account, which is contained in the following words: "The Hemeka is something between the Small-pox and the Measles; and it is less dangerous than either†." It seems, however, most likely the Arabians would rank the Scarlet Fever with these diseases; and I think no one will deny that the description of the rash given by Haly Abbas might apply to the Scarlatina as well as to the Measles‡. In treating of the Small-pox, he says, "Et in rubore species est aliqua, quæ vocatur Rubeola, quæ ex sanguine fit calido, et subtili, non multum malo. Et hæc species, cum ad statum pervenerit, similis fit milii granis, aut paulò major, et ejus color rubeus; nec aperiuntur pustulæ, neque fluunt. Communia signa

que l'on apperçoit que leur tête commence à s'appesantir. Il faut réitérer ce remède suivant le besoin, afin de vider une espèce d'eau forte qui se décharge sur la gorge."

* See Ingrassias De tum. præt. nat. lib. I. cap. 1.

† Lib. IV. Fen. 2. Tr. 4. 6. "The word Hemka signifies Beet, the colour of which does not ill apply to the colour of the Scarlatina: but the cursory mention of the disease, so entitled by Avicenna, is not sufficient to determine it's character." Dr. Robt. Jackson.

‡ Theorice, lib. VIII. cap. 14. Compare Constantin. African. Loci Med. lib. VIII. who has nearly copied the words of Haly.

funt febris, faciei tumor, temporum et auricularum prurigo, in naso inflammatio, rubor in facie et in membris affectis, capitis gravitas, et in gurgulione asperitas." Rhazes and others observe, that Measles of a highly red colour are more dangerous than those which are moderately red*.

Ingraffia is the first author of modern times, who has described the Scarlatina. His account of it extends no farther than to the first species. The disease was known to the Neapolitans before the year 1500 by the name of Rossalia; and he considers it as having a close affinity with the Small-pox and Measles. "Præter ambas species, alias adhuc duas passim advenire conspeximus, quarum altera nuper a vulgaribus Rossania five Rossalia vocatur: alteram verò Crystallos vocant. Illam idcirco Rossaliam† nuncupant, quoniam maculæ,
per

* Cap. XIV. Cont. XVIII. 8. & Ad Almansor.

† The efflorescence was termed Rossalia, or Rosalia, from its colour. Other Italian writers denominate the disease Robelia, or Rubiola, from Robia, madder, the Rubia tinctorum. Physicians in France adopted a similar denomination, using sometimes the word Rubeola, or Rubiola, sometimes the plurals Rubiolæ, Rubioli. See Ballonius de Epidem. lib. I. & Consult. Med. lib. II. M. Chesneau observes, "Vulgus Massiliæ distinguit Rubiolam a Morbillis, hos vocantes Senepion, et illam Rougeole, in quâ non sunt pustulæ, sed magnæ tantum areæ, in modum Erysipelatis rubentes. Obs. Med. pag. 454.

per univcrsum corpus plurimæ, magnæ et parvæ, ignitæ ac rubræ, cum vix effatu digno tumore, instar multa seorsim erysipelata, dispersæ sunt, ut totum corpus ignitum appareat.”—He is careful, however, to distinguish this disease from the Measles. “Nonnulli sunt qui Morbillos idem cum Rossaliâ esse existimant : nos autem sæpe distinctos esse affectus nostrismet oculis, non aliorum duntaxat relationi confidentes, inspeximus*.”

A contagious Sore-throat proved extremely fatal in the vicinity of Amsterdam during the year 1517. From the account of it given by a Dutch physician, as quoted by Foresti†, we may conclude that this disease was an epidemic Scarlatina of the most malignant kind. “Aliter se habuit dolor gutturis, tum, inflammatio, in illa Anginâ epidemiâ, imo pestiferâ, et adeò malignâ

In consequence of the expressions used by Ingrassia, many writers of the 17th century apply the denominations of Erysipelata, and Morbilli ignei to the Scarlatina; others use the name of Purpura;—but there is no end to the synonyms of this disorder. Compare Eust. Rud. Sympt. Extern. de Fersâ Venet. Prosper. Martian. in. Hippoc. Epidem. I. 2. sec. 3. and Bonacurs. de Mal. Extern. cap. 45.

* De tumor. præt. nat. Tract. 1. cap. 1.

† Forestus, obs. 2. lib. VI. The morbus epidemicus cum gutturis et pectoris angustîâ, described by Foresti himself, was an Epidemic Catarrh, or Influenza.

et contagiosâ, quæ tempore M. Joan. Tyengii, Amstelrodamensis medici celebrioris, in multos circa principium anni 1517 grassabatur, ut quibus intra sex vel octo horas apta remedia non adhibebantur ante sedecim vel viginti horas subito moriebantur; neque aliquis evadebat (ut perhibetur in ejus libello propriâ manu scripto) si medico docto non uteretur. Erat autem materia, in illo morbo populari, ita furiosa, ut uno momento tantam anhelitus difficultatem, cordisque angustiam, et dolorem in collo pareret, ut ægrotus strangulari mox videretur: quibus symptomatis rursus cessantibus, moxque redeuntibus, cum materia adeo maligna, venenosa, et fluxa, per musculos colli, tum pectoris uno ictu trajiceretur, multi suffocabantur."

We may without hesitation rank as an epidemic Scarlatina anginosa, the pestilential Sore-throat described by Wierus*, which spread through Lower Germany in the years 1564 and 1565. The Small-pox, Measles, and a Contagious Catarrh immediately preceded this disease. It proved chiefly fatal to infants; and in addition to the fore-throat, was attended with violent fever, vomiting, swelling of the parotid glands, and patches of an erysipelatous efflorescence.

* Obs. Med. rarior. See also Schenckii Obs. lib. VI. p. 775.

A few years afterward the same disorder was epidemical in Paris. The celebrated Ballonius (De Baillou) has described it under the title of Rubiolæ*. His account most clearly comprizes the principal varieties of the Scarlatina. He compares the efflorescence to a blush over the whole surface of the body, observing that this appearance, if no fever had preceded it, was not formidable; and that it occurred in many women, and children, who were not afterwards affected with fever, pain, or any uneasiness whatever. He also mentions the leading symptoms of the Scarlatina anginosa. "Uvulæ inflammatio multis, et deglutiendi difficultas, aliquando faucium exulcerationes; aliàs angina quædam sicca (ut vocat Hippocrates) per erysipelatoden phlogosin: suffocatio inde. Multis et parotides comites, et præcedunt, et sequuntur, quæ non sunt semper metuendæ. A capite, sunt dolores in oculo profundi, oculorum dolor et flagrantia, propensio in somnum, et tamen dormiendi impotentia, immo et coryza, et aurium dolor, ficitas in gutture, et implacabilis sitis cum anorexia. Alvi aliquando astrictio est, aliquando fœda illuvies, corporis pruritus, et velut acicularum punc-

* De Epidemiis, lib. 1. 2. & Consult. Med. lib. 1. He carefully distinguishes the Rubiolæ from the Measles (Morbilli) and thinks the former partake of the nature of Erysipelas, but that the Small-pox and Measles have an affinity with Herpes.

turæ."

turæ." He likewise mentions hæmorrhagy, and abortion*, as frequent occurrences. Those who were affected with the disease in it's slightest form, he says, often brought on, through neglect, or mismanagement, a fever of the most malignant kind, (" cum hoc negligenter, non impunè tulerunt, nam non ità longè post febre correpti sunt mali moris" :) and, when the eruption appeared on the 4th, 5th, 6th day of fever, or later, the most violent and dangerous symptoms followed. The dreadful mortality of this distemper in autumn 1575 is particularly remarked by Ballonius: " Et hæc quidem diversis oborta sunt annis, nunquam tamen majore cum clade quam autumno 1575, feracissimo exanthematum puerilium, ex quâ peribant omnes, et non proficiebat hilum ars ea quæ multis auxilio esse solet.—Tanta feri venenati erat malignitas!

During the year 1580, an Influenza†, said to have originated in Asia, was rapidly diffused over all Eu-

* Uxor Bodini septimestrem partum excussit vi morbi, eodem modo maculatum quo mater. Uxor Lyssæi nono die germen exclusit, &c.

† This epidemic Catarrh is described by Forestus, Obs. 3. lib. I. See also Synopsis Novi Morbi Catarrhalis a Jo. Bokelio, M. D. Prof. Helmestat. 1580. De Febre Epidemiâ anni 1580, a J. Sporischio ab Ottenbachaw, M. D. Francofurti: and De Morbo arietis libell. a Franc. Campo, M. D. Luccæ, 1586.

rope. According to Alphonso de Fontecha*, the Influenza in Spain was immediately succeeded by an epidemic Sore-throat, of a most malignant and fatal kind, to which the Spaniards gave the name of Garrottillo. It remained among them forty years, and within that period, spread to all the sea-ports of Italy, Sicily, and Malta. It's first appearance at Naples was in 1618†. Being there deemed, as it had before been in Spain, a new disease, it presently received a variety of new appellations‡. The mortality of it, reported by the Spanish and Neapolitan physicians, appears at present incredible. L. De Mercado informs us that every one who was seized with it, died in less

* Ab anno 1581, adnotatæ fuerunt anginosæ istæ lues prædictæ, ut affirmant quam plurimi doctores, et senes magnæ authoritatis, et constat ex relationibus quam plurimis. Disputat. De Anginâ, lib. II. pag. 22. Alphonso's Observations on this disease were made in the years 1603 and 1604.

† Angina pestifera ab anno 1618 erupit, insuetus inter nostras gentes morbus, &c. Boneti Sepulchret. tom. I. 479.

‡ Ulcera anginosa, Ulcera Syriaca, Passio anginosa, Phlegmone anginosa, Carbunculus anginosus, Angina maligna, Angina Puerorum, Angina pestilentialis, Angina pestifera, Tonsillæ pestilentes, Pestilens faucium affectus, Therioma faucium, Aphthæ malignæ, Ignis sacer, Pædanchone maligna, Affectus suffocatorius, Morbus strangulatorius, Laqueus gutturis, Epidemica gutturis lues, Male in canna, &c.

than

than four days*. According to Carnevala, it destroyed 500,000† persons at Naples within two years. This assertion, however, is contradicted by Francesco Nola‡, who has given a more accurate history of the disease than any of his contemporaries. He observes that the contagion seldom affected all the individuals of a family; that it only proved fatal to persons of a weak humid temperament, and to children; and that in some houses, all who were seized with it, had it in a very mild form.

It may be necessary here to assign my reasons for ranking the Garrotillo among the varieties of Scarlatina, as it has been generally supposed that the

* Mercati Consult. Med. 14. De gutturis anginosis et lethali bus Ulceribus, vulgo Garrotillo, pag. 136.

† Quingenta hominum millia. A mistake surely for quinquaginta! The population of Naples could not admit of so great a mortality. Jo. Baptista Carnevala, De Epidemico Strangulatorio affectu; Neapoli 1620. pag. 2.

‡ De Epidemio Phlegmone anginoso; Neapoli, 1620, pag. 15. Nearly the same observations were made, in Sicily, by Marc. Anton. Alaymus. Morbus non totam civitatem, verum nec dimidiam, nec centesimam partem hominum, sed puerulos paucos, et ex his ut plurimum cacochymos et malè curatos exanimat. Consultatio pro Ulceris Syriaci, nunc vagantis, curatione, Panormi, 1632. See also Tractat. de Garrotillo, cap. 8. a D. Fr. Perez Cascales Guadalajara, Matriti, 1611.

Garrotillo was not attended with any eruption analogous to that which occurs in the Scarlet Fever*.—I formerly remarked that the efflorescence, in the *Scarlatina maligna*, is usually partial and indistinct: it might therefore pass unnoticed by authors, who seem less anxious to describe minutely what their own experience presented, than to copy the descriptions of similar complaints from the ancients, or to establish ancient theories, “constantly appealing,” as Dr. Fothergill justly observes, “to Hippocrates, Galen, Avicenna, &c. for the support of their opinions concerning a disease, which it is not certain that those they appeal to ever saw.”—The identity of the Garrotillo and malignant *Scarlatina* does not, however, depend upon negative circumstances, but can be proved by the direct testimony of the best writers on the subject. They designate the Scarlet efflorescence, as was usual at that time by the denomination of *Erysipelast*, or *Erysipe-*

* On this point, Dr. Fothergill was only able to collect from the different authors whom he consulted, that, “the fever was frequently accompanied with small pimples, and eruptions like flea-bites.” On the *Ulcerated Sore-throat*, pag. 12. *Cruore confusas pustulas nigras, hoc illo loco, parvas, ecthymata, et pustulas pulicum morsus referentes. Severin. De Pædanchone maligna, Partic 2. p. 31.*

Compare Wileke on the *Angina Infantum*, (Sandifort’s *Thesaurus*) who mentions the appearance of *Erysipelas*, or *Scarlatina*, as very unusual at Stockholm; vol. II. p. 355.—Dr. Fothergill does not seem to have read Nola’s *Treatise on the Epidemic Sore-throat at Naples*.

† L. de Mercado says, “Although this disease be usually entitled
lata,

lata*, and they have remarked its frequent appearance with the Garrotillo.—De Mercado, (Consult. 28,) has related at length one case under this form, and adds, that he saw many persons affected with a similar disease, especially at the monastery of St. Lawrence, and in its vicinity. The importance of this subject induces me to quote the case and consultation in the author's own words, as a confirmation of what has been advanced, and likewise as a specimen of the injudicious treatment of a disease, which would perhaps have safely and speedily terminated without medical interference. But the doctor, like many of his cotemporaries, chose rather to err with Galen, than trust to his own reason and sagacity. *Illustrissima Domina Maria Manrique, religiosi ordinis sancti Bernardi in Vallevolitano cœnobio, 40 cum esset annorum biliosæ, et sanguinæ naturæ, menstruis copiosis purgata ante hanc ætatem, et nunc longè minùs, curis et sollicitudine non parùm affecta, prope solstitium æstivale, correpta est febre, non admodùm intensâ, sed variis horroribus implicatâ, et intermissâ, ac totiens recalescente, cum capitis dolore intenso, et viscerum, maximè juxtâ ventriculum parte ejus dextrâ, molestissimâ sensatione, quâ ferè animo videbatur deficere. Tertio die ab his accidentibus, faciem cœpit occupare, et gutturis dextram partem, rubor plu-*

Erysipelatous, yet it is widely different both in its nature and circumstances from the ancient genuine Erysipelas." See page 299.

* See note, pag. 289, 290, and Sennert. lib. IV. cap. 12.

rimùm faturatus, citrà evidentem tumorem: crevit ad caput usque per oculos, utramque faciei partem occupans, quo minùs horrida erat, et magis continuè febricitabat, et longè minùs molestiis prædictis premebatur, præsertim sanguine misso bis ac ter, quo rubor quievissè videbatur. Verùm eo tandem nondum cessante, horrere iterùm cœpit, et anxietate premi; ac mox febris increvit, et thoracis a cervice ad mammas extimam regionem apprehendit rubor, non ità intensi coloris, cæterùm febris, cessantibus reliquis accidentibus, non ità manifestè cessavit, sicut primo ruboris insultu. Quo ordine, reversionibus, et remissionibus usque ad vigesimum diem, malum revertebatur: deinceps verò usque ad mortem, cessante Erysipelate, vires plurimùm delitescabant, et febris atrocioris conditionis sese ostendebat, ità ut nullis auxiliis cedere videretur, donec subito motu, in importunissimum somnum delapsa (quamvis ab 11mo die in somnum erat proclivis) cœpit deinceps oblivisci, et tandem cum sopore delirare, quo usque ad 30^m diem, quo mortua fuit, duravit, humore subito etiam ad cor recurrente, quo celerius quam affectus et vires pollicebantur, morte correpta fuit.—Placuit historiam hujus illustrissimæ fœminæ hac in parte recensere, cui consimiles jam conspeximus alias, maximè in cœnobio Sancti Laurentii Hiscorialis, tam intùs, quam in habitatiunculis extrà ipsum. Namque in omnibus illis apparuit is morbus quem

quem Erysipelatis nuncupamus, tamen longe diffitus ac diversus ab antiquâ et innatâ ejus naturâ et conditione.—In nostrâ laborante, pars dextra facilè rubescere cœpit, verùm non ut in vulgari Erysipelate, sed cum febre, capitis dolore, ventriculi anxietate, et biliosis vomitibus, quibus nihil levata erat: quinimò indies magis ac magis animo deficere videbatur. Tunc quidem sanguinem misimus, verentes retrocessum biliosi succi erysipelantis faciem vi medicamenti purgantis; idque ter fecimus. Sed cum hoc, horrores iterùm revertebantur, et febris magis crescebat, donec apparuit rubor, maximam cervicis et pectoris partem occupans. Tunc quidem quartò sanguinem misimus, et cum remitterentur hæc omnia, iterùm horrere cœpit, et per alias partes corporis rubor apparere, quò sanguinem quintò misimus. Et cum constaret, neque præsidia, neque expulsionem a naturâ factas, aliquid profecisse, consideravimus jecur adeò pravâ intemperie esse affectum, quod non solum bilem torridam et parvæ conditionis generaret, sed insuper genitam iterùm inficeret, ac ob id per utramque alvum conari expellere, et ad cutem teneriorem partim transmittere. Cæterùm conjecimus, itâ naturam interiùs premi, tum jecoris vitio, tum humoris malignitate, quod longè plùs in deterius rueret laborans ex his, quam ab expulsa ad cutem bile levaretur: et deinceps verentes naturæ exitum, curavimus jecori subvenire, priùs bile ab ipso repurgatâ

repurgatâ, ac mox reductâ ejus vitiosâ temperie in familiarem et salubriorem*.

From the account of the Epidemic Sore-throat at Naples, as given by Francesco Nola, we learn,

1. That, after a very rainy season, a contagious distemper affected cattle in 1616.
2. That the Small-pox, Measles, and Erysipelata, prevailed, with almost equal violence, among the human race, during the spring and summer of the year 1617†.
3. That, while these eruptive diseases still continued, the Sore-throat began to affect children in the spring of 1618‡, and became, in the succeeding autumn, highly malignant.
4. That, on the first appearance of the disease, adults were affected with the Erysipelata || only; but when the contagion was extensively spread among children,

* Compare the case of Xuarez, at Toledo, Cons. Med. 14. Tom. V. pag. 135.

† Anno 1617, erant Fluxus ventris, Variolæ, et Morbilli permulti ad æstatem usque, et Erysipelata, tum maximè in humidioribus. Nola, De Epidemio Phlegmone anginoso; Neapoli. 1620, pag. 13.

‡ Postmodùm, iisdem morbis inter aliquos homines perdurantibus, ann. 1618 et 1619, gulas pueris affecit contagio. Pag. 47.

|| Adultos in principio Erysipelatibus corripuit, et similibus, morbus; postmodùm verò, gulas pueris et dein adultis invasit. Pag. 45.

that

that adults were likewise seized with the complaint in the throat.

5. That, under similar circumstances, some had symptoms so favourable, others so malignant, that they seemed scarcely to have the same disease*.

The testimony of this writer being clear and decisive, I think it unnecessary to quote further authorities in proof of my position, that the Garrotillo in Spain, and the Epidemic Sore-throat at Naples, were in every respect similar to the Scarlatina anginosa of later times.

While this disease raged with so much virulence in the southern states of Europe, we find, from the writings of Senertus, Doringius, and others, that the milder forms of the Scarlatina prevailed in different parts of Germany. They are described under the titles of Morbilli ignei, Rossalia, Erysipelata, and Universal

* Erat alio malignus morbus, alteri benignus, ferèque toto cœlo ab altero diversus.—Simillimos, æque viventes, persæpe vidimus correptos diverso modo, benignè, vel malignè. Pag. 23. Compare Severinus, de Pedanchone, Partic. ii. pag. 30.

† Morbilli ignei sunt tumores corporis, in cute potissimùm conspiciendi, omnium minimi, cum febre continuâ putridâ, malignâ, et ruboribus totius corporis pruriginosis, conjuncti, a sero, bilioso, maligno, et

verfal Eryfipelas. Doringius has given a more accurate account of the Scarlatina anginosa than any preceding writer; and he is, I believe, the first who has noticed the frequent termination of this disease in painful tumours of the joints, or in dropfical swellings of the abdomen and lower extremities. “Terminatur ad plurimum translatione materiæ ad articulos extremorum, cum tam dolorifico tumore ac rubore qualis apud arthricos esse solet: hinc cutis reliqua corporis squamatim detrahitur: mox pedes ad talos et furas usque intumescunt: urinæ crassescunt, et rutescunt. Hypochondria tenduntur primùm, et respiratio difficilis redditur: paullò post abdomen ipsum in tumorem attollitur: isti autem non nisi magno labore, et post multas demum septimanas, ceu hydropici incipientes, ad pristinam sanitatem deducuntur*.”

The Scarlatina is again described, under the title “Febris miliaris rubra,” as a new disease, which is said

specificè corrupto orti. Ephemer. Acad. Nat. Cur. Dec. 1. ann. 6. 7. Obs. 42. Bonetus terms the Sore-throat connected with this eruption, Angina ignea, Med. Sept. II. 7. 3. See Sennerti op. tom. II. 1. 4: cap. 12.

* Epist 18, ad Sennertum. See Bonet. Med. Septentr. collat. lib. II. c. 7. Compare Prosp. Martian. Comment. in Hippoc. Epid. 1. II. sec. 3. and Bonacursius, cap. 45. Mal. Extern. de Rossaliâ, vel Fersâ. Bononiæ, 1656.

to

to have appeared at Leipzig, about the middle of the 17th century. Godofred Welsch, in a Dissertation entitled, "*Historia medica novum istum puerperarum morbum continens, qui ipsis Der Friesel dicitur,*" mentions, besides the white miliary eruption usual in puerperal cases, another * form of disease, characterized by shiverings, pain of the head, redness of the eyes, a vivid red rash, sometimes over the whole body, sometimes in scattered patches, great heat, roughness and itching of the skin, general debility, restlessness, and frequent hæmorrhagy from the nose. He further observes, that between the fourth and sixth day from the beginning of the complaint, the redness of the skin was at it's height, or rather declining; and that in those who recovered, there was a regular crisis either by a slight diarrhœa, or copious perspiration, succeeded by desquamation of the cuticle. With these leading circumstances, the author has intermixed the symptoms usually attending the appearance of miliary vesicles, DEF. X. and has thus unnecessarily added another species to the Miliary eruptions, noticed before his time by the Germans and French,

* *Malum hoc duplici ut plurimum comparuit facie, rubrâ plerumque, non rarò albâ; illud cum insigni ac intenso semper calore, rubore, pruritu, et asperitate cutis duriusculâ, hoc vero quoad calorem, pruritum, juxtâ ac rubedinem, remissius, et pusillis albicantibus pustulis, ichorem in se continentibus, conspiciere est.*

in treating of puerperal and malignant Fevers*. In comparing this eruptive fever with Sennertus's imperfect account of the Roffalia, Welsch betrays his total ignorance of the latter. He says the complaint at Leipzig could not be the Roffalia, "because it was attended with a general redness, and roughness of the skin," circumstances which, though not noticed by Sennertus, are in reality characteristics of the Scarlatina. We cannot be surprized at the mistake of a medical student on subjects, wherein the authors he consulted were very defective; but there seems little excuse for men of experience, who could persuade themselves that a new epidemic and contagious eruptive disease commenced almost instantaneously, and after spreading in a short time over the greatest part of Europe, suddenly and finally disappeared.—The nature of the disease at Leipzig may be easily understood by comparing Dr. Welsch's Dissertation with the statements of his cotemporaries, and of some preceding writers. From these it appears that the Morbilli ignei, or Purpura (both which terms denote the Scarlatina, pag. 290, 301,) was, about the year 1650, epidemical in the vicinity of Leipzig. According to Dr. D. Winceler, Eph. Ac.

* Tagaultius, Fernelius, Hadrianus Junius, Foesius, Sennertus, &c. See Foresti Op. pag. 206. Riverii Prax. 1. XVII. sect 3. cap. 1. Bonet. Med. Septen. t. II. l. 5. Etmuller de Febribus, pag. 245. and Burserii Inst. Med. vol. II. § 384.

Nat. Cur. Dec. I. an. 6. 7. obs. 42. “Hi Morbilli apparere primùm apud nos anno 1642, post obsidionem Bregensem, Lipsiæ verò paulò post: et quod nos in pueris, ipsi in puerperis * annotarunt, ut testatur Disputatio ibi habita anno 1655, a D^{no} D. Welsch. Vocant verò Der Friesel, a panni Frieße similitudine: nomen quidem est diversum, res vero eadem, ut ex definitione ipsorum, Cap. III. Thes. 5. unusquisque videre potest. Symptomata autem ista periculosa, ut angina, parotides, &c. apud illos abfuerunt.” He has prefixed to his observations a fatal case entitled, “Angina in Morbillis.”

Georg. Hieron. Welsch mentions the Lipſian epidemic under the title “Febris coccinea†”, and has given the particulars of one case, which appears evidently to have been a mild Scarlet Fever.—From Chr. Joannes Langius we learn, that the disease at Leipſic

* Whenever the Scarlatina is epidemical, it usually affects women too or three days after lying in, and often proves fatal to them. Many instances of this occurred in 1786, and the succeeding years, while the Scarlatina was prevalent in London. In 1796-7, there was a still greater mortality from the same cause. See my Reports on Diseases in London, pag. 341-2. Dr. Withering also says, the Scarlet Fever and Sore-throat at Birmingham was “particularly fatal to lying in women”: he had himself three patients under these circumstances, and they all died. Pag. 251.

† Cur. Propr. 2. Dec. I.

was

was not, according to the first account of it, peculiar to women in childbed, but extended to persons of all ages and sexes, and proved fatal to many. In treating of the *Febris purpurea*, he observes, "*Purpura in nostrâ Lipsiâ perquam frequens est, ut non modò pueros cum juvenibus, adultos cum senibus, viros cum fœminis, et ex his speciatim puerperas, totâ penè die invadat, et paucos intrâ dies, ni summa habeatur cura, interimat. Sed non a multis retrò annis, hanc Purpuræ molestam familiaritatem civitas nostra experta est, sed demum paulò ante annum hujus seculi quinquagesimum, cum puerperarum quamplurimarum strage, primam ejus invasionem recordantur incolæ**".

Etmuller, who was Professor of physic at Leipzig about twenty years after the first appearance of this epidemic, makes nearly the same observations: "*Febris nostra purpurata, Der Friesel dicta, aliàs Febris miliaris dicitur, item Morbilli ignei. Febris hæc quosvis adurit, mares et fœminas, infantes et adultos, præsertim puerperas, quibus et malignior et funestior existit mensium retentorum occasione.*" De Feb. pag. 527.

* Chr. J. Lang. *Prax. Med.* cap. 13. and Scacher de *Febre acutâ exanthematica*; Lipsiæ 1723. Iste affectus non modo puerperas, verum tenellos, etiam adultos utriusq; sexûs, adortus est. See Haller. *Disputationes*, vol. V. p. 488. Hoffmann, *Consultat. Med.* p. 413. Juncker's *Conspectus*, tab. 64.

An epidemical Miliary Fever, resembling that at Leipzig, is said by C. Rayger to have prevailed at Presburgh in the year 1671-2. From his account of the disease, however, we may decisively conclude that it was the Scarlatina: after considering it as an "*Erysipelas per totum corpus diffusum*," he adds, "*totum corpus intense rubrum erat, ac si panno rubro involutum esset*": and he himself thinks it might more properly have been denominated Rossalia*.

The Scarlatina spread through Poland in the year 1665, and has been well described by Schultzius under the denomination of *Purpura epidemia maligna*†. A few years afterwards, it was noticed by various authors in Denmark, Holland, Switzerland, Lombardy, Bavaria, Austria, England, and Scotland‡. J. N. Pechlin ob-

* *Miscell. Nat. Cur. Dec. I. ann. 3. De Febre malignâ cum Exanthematibus miliaribus.*

† *Act. Ac. Cur. Dec. I. ann. 6. 7. pag. 206.* The fatality of this epidemic among infants and children deserves to be noticed. "*Plerique 2dâ die morbi, nonnulli etiam 1mâ moriebantur.*"

‡ Borrichius de Rossalia squamosâ.—*Misc. Nat. Cur. Dec. I. ann. 45. & Dec. III. Ephemer. Dec. III. Targione, sopra humana salute, tom III. Nerucci de Variolis, Sydenham, Morton; and Sibbald, Scotia illustrata, part I. pag. 55.* It is observed, *Act. Erud. Lips. tom. IV. ann. 1685,* "*Describit Sibbaldus febrem Scarlatinam dictam, ejus historia nostratum Purpuræ, germanicè Friesel, accuratè respondet.*"

serves,

ferves, that this disease, which he considers as a species of Measles (*Morbilli*), was epidemical in different parts of Germany from 1677 to 1683. As a proof of the rapid progress of the contagion, he says that seven hundred persons were affected with the disease, at the same time, in Stutgard*.

Between 1690 and 1696, this disease, termed *Morbilli maligni*, *perniciosa lues*, *pestis puerorum*, &c. made similar ravages in Dresden, Wirtembergh, and Ulm, as appears from several dissertations in the *Ephemeridest*.—According to Loew, *Hist. Epid. Hung. Act. Nat. Cur.* p. 26, the *Rossalia* immediately succeeded the Measles, and was diffused through Hungary in the year 1697. About the same time it prevailed in Saxony, and again proved fatal to many in Leipzig, as we are informed by C. J. Langius; *Disputat.* 44.—It continued in different parts of the electorate above fifty years, occasionally exhibiting all its different forms, of which an enlarged account was given in the year 1742, by J. Storch, who had himself seen upwards of two hundred cases of the disease. Its latter stage was attended with dropsy, and many dangerous symptoms, so that one in ten of his patients

* *Obs. Physico-Med.* 19. l. II.

† *Dec.* III. ann. 1. *Dec.* IV. p. 21, &c. &c.

died.

died.—The *Scarlatina anginosa* raged at Berlin from 1694 to 1701, and has been well described, by its proper title, in the *Act. Med. Berolin.* Dec. I. vol. II. and Dec. II. v. V. § 3. Its subsequent appearances in different parts of Germany, in the Netherlands, Sweden, and Italy, until the middle of the last century, are noticed by several writers on the *Febris miliaris*, *Purpura miliaris*, *Purpura rubra*, *Purpura febrilis*, *Morbilli maligni*, *Angina infantum**, &c.

The ulcerated Sore-throat, or *Aphthæ febriles*, a disease frequently occurring in Holland, was in the opinion of Van Swieten†, a modification of the *Purpura*, or *Febris miliaris*, described by German authors. De Haen does not hesitate to denominate it *Scarlatina pessima*‡. It is singular that this complaint, when epidemical in the vicinity of Leyden about the year

* *Act. Nat. Cur.* vol. II. obs. 32. vol. VI. pag. 72. vol. IX. pag. 55, &c. &c. *Historia Morbor. Vratilav.* 1700-1702. *Violante de Morbillis*, 1732. *Saltzman, Historia purpuræ miliaris, Argentorati*, 1736. *Aloysio Targioni*, at Florence, 1717-18, tom. III. *Rosenstein*, at Upsal, 1741, cap. 16. *Zaffii Synops. obs. med.* 1745-6, pag. 39. *Journal de Med.* tom. VIII. pag. 556. *Bergius and Wilcke*, at Stockholm, &c. 1755-8. (*Sandifort's Thesaurus*, vol. II. pag. 350.) *Ant. Storck. mens. Nov.* 1759. *Vindebonæ*, &c. &c.

† *Commentar. in Boerh. Aph.* 997.

‡ *De Feb. Division.*

1669, should be again mentioned and described as an unknown disease*.

Dr. Morton is the first English author who has given an enlarged account of the Scarlatina. He mentions the affection of the throat, with all the other symptoms peculiar to the Scarlatina anginosæ†, and its usual consequences, as swelled parotids, scrophulous ulcerations, atrophy, and anasarcaous swellings of the legs. He also relates some cases of the disease in its malignant, or, as he terms it, pestilential form‡. However,

* Dr. Guid. Fantoise, *Dissertatio Medica De Epidemio hactenus inaudito, æstate anni 1669, Lugduni Batavorum, vicinisque locis, grassante*. His account of this disorder agrees precisely with the description of a similar epidemic in Holland by Tyengius in 1715, formerly quoted, page 290-1.

† Ubi morbus est benignus, efflorescentia 2do vel 3tio morbi die incipit, atque 4to vel 5to die, unâ cum febre comitante, recedit: ubi malignus est, et epidemicus, non rarò efflorescentiæ apparatus ad 6tum vel 7m diem protrahitur; et efflorescentia usque ad 14m et ultrâ durat. Interea febris accenditur; glandulæ pharyngis, laryngis, &c. inflammantur: dolor fit in gutture ulcerosus; deglutitio læditur; anhelitus, strangulatio ac suffocatio, cæteraque anginæ symptomata sæpiùs ingravescent. Post efflorescentiam peractam, denique morbi ipsissimi, scrophulæ, cachexia vel atrophia universalis, leucophlegmatia, ascites, morbum consequuntur. De Morbillis & Febre Scarlatina, cap. IV.—V.

‡ See Case ii. cap. V. on which he remarks, siquando venenum istiusmodi, crisi perfectâ, per cuticulam propelli haud potest, tanquam venenum pestilentielle glandulas sponte petit narium, faucium, inguinum, &c. easque

ever, as was formerly stated (pag. 241-2), he considers the Scarlatina merely as a variety of the Measles, and thinks it has the same relation to that disease, as the confluent has to the distinct Small-pox*. On this hypothesis, all persons who had passed through the Rubeola vulgaris † might, without apprehension, expose themselves to the contagion of the Scarlet Fever. The fatal consequences which would arise from acting in conformity to such an opinion, have been ascertained by the experience acquired during the lapse of another century.

The Scarlatina anginosa is properly noticed in the

easque inflammat, et exulcerat: nec non carcinomata, bubones, et parotidas excitat. Quantum tonsillas, uvulam, fauces, nares, et quamdiu intumuisse vidi! quam turgida nonnumquam labia! et quam sordidâ orabie obducta et exulcerata, ab eâdem causâ, animadverti!

Dr. Morton's observations were made between the years 1672 and 1694.

* Hunc morbum prorsus eundem esse cum Morbillis censeo, et solo efflorescentiæ modo ab illis distare. Quæ differentia tanti non est ut alterum morbum constituat, nisi pari ratione Variolæ confluentes et distinctæ, cæterique morbi ex accidente aliquo inter se differentes, ubi causæ, symptomata, prognostica, curativæ indicationes, atque methodus medendi, ab invicem minimè distent, in diversos morbos dividantur—— Quorsum enim nova nomina affectibus imponantur, et morbi, tantum specie differentes, sub alio atque alio titulo tractentur?

† Dr. Morton himself says, Nunquam in totâ meâ praxi novi quemquam, præter unum puerum, secundâ vice hoc morbo correptum. De Morbillis et Febre Scarlatinâ, cap. III. pag. 38.

Edinburgh Medical Essays, vol. III. p. 27. "July 1733, children were attacked with the SCARLET FEVER and ANGINA, which became very epidemic in the two succeeding months, was less frequent and milder in October, but continued all the winter and spring. This disease began commonly with a quick pulse, heat, thirst, headach, and a pain in the throat, where frequently a swelling of the amygdalæ was observed. Many had a vomiting and diarrhœa at the first attack of the disease, without any remarkable change on the other symptoms. After a day or two, the face, or extremities, and sometimes the whole body, swelled, the skin being red, with a watery clearness shining through it. Frequently the swelling and redness proceeded gradually from one part to another. It was remarked that such patients as had undergone the Scarlet Fever any time in their lives before, took at this time the fever and angina, without the scarlet eruption*; but all who laboured under the Scarlet Fever had the angina also. Many, who were neglected in the beginning of this disease, were suffocated by the anginæ."

In the fourth volume of the same essays, pag. 490, is an abridged account of a similar epidemic fever in New England, attended with "swelling, pain, and white

* See above, pag. 274.

specks in the uvula, and tonsils, and a distinct, red, miliary eruption over all, and at it's height on the fourth day; after which it itched, and scaled off, and the specks sloughed off from the subsiding fauces."

"A worse kind of this fever was accompanied with a low, unequal pulse, prostration of strength, despondency, colliquative vomiting, purging, or sweats, chopped tonsils, with brown or livid spots; the eruption darker coloured, or appearing, and disappearing; ichor, or pus coming by the mouth and nose from parts out of sight; mucous exuviae sloughing off the tongue, œsophagus, or bronchia. Many thus affected died the sixth or seventh day."

"In the worst sort, the pulse and strength were still lower, the colliquations greater; and the sick had a sinking pain at the stomach, stupor, delirium, convulsions, and an intolerable foetor. The few thus seized died the first, second, or third day.—This disease was followed in some by discolourations and hæmorrhages like those in the Scurvy; in others by tumours, which often suppurated; in others by hysterical symptoms, melancholy, fatuity," &c.

The author adds that this fever "seized a half of the inhabitants of New England, and killed one in thirty-five," and that "in some places one sixth, one fourth, or one third of the sick died."

This

This statement, given by Dr. Douglass of Boston, is confirmed by Mr. Colden*, who remarks, that "The first appearance of the disease was at Kingstone, an inland town, about the year 1735"; that "it gradually spread from thence, westward, over all the colonies in North America"; that "it was two years in Hudson's River"; that "it was some time before it passed to the west side of that river, its first appearance being in places to which the New England traders resorted, or through which they travelled."

Dr. Huxham, in the year 1734, observed an epidemic disease termed by him *Febris anginosa*, which answers in all respects to the *Scarlatina anginosa*. This will be manifest to those who carefully read his description of the symptoms, particularly of the efflorescence, and appearances in the throat†. The *anginose* and eruptive

* On the "Throat-Distemper," *Med. Observ. & Inquiries*, vol. I. pag. 211. It will appear probable from Dr. Huxham's statement below, that the infection was conveyed to America by ships cleared out from Plymouth, Falmouth, or some of our southern ports.

† *De Aere et Morb. Epidem.* vol. I. pag. 92. &c. &c. This appears to be the disease noted in the *Gentleman's Magazine* for the year 1734, Sept. 30. "In Cornwall, a Fever, which last year was very mortal, seemed to return this month, seizing suddenly those who, in appearance, were well but a moment before, with violent vomitings, flux, faintness, sighings, heat, thirst, raving, doating, and depression of heart."

Fever continued under Dr. Huxham's notice, in different parts of Devonshire and Cornwall, till the year 1753. He mentions it under the denominations of "Febris miliaris rubra*," "Febris miliaris maligna†," and "Febris anginosa miliaris‡;" in other passages he informs us that the simple Scarlatina§, also termed Eruptio erysipelatosæ||, and perhaps Rubeolæ¶, frequently occurred with the anginose fever. The Small-pox, and Measles (Morbilli) were very prevalent within the same period, as also the Chicken-pox, termed sometimes Rubeoli, and sometimes Febris Rubeolosa pustulata**. In his dissertation on the "Malignant Ulcerated Sore-throat" (Angina maligna of Dr. Fothergill, and other authors), Dr. H. says, "The Febris anginosa was attended with scarlet or pustular eruptions, succeeded by great itching and desquamation of the cuticle," pag. 108. At page 116, he considers "the malignant ulcerous Sore-throat, as a disease sui generis," yet he acknowledges, "It had a very great resemblance to the Febris

* Vol. I. pag. 60 & 111. VII. 115.

† Vol. I. p. 123-4.

‡ Vol. I. p. 107.

§ Vol. I. 125. VII. 113.

|| Vol. I. 95.

¶ Vol. I. 71. 28 & 116.

** See vol. II. pag. 76. 132. 137. 153. &c.

anginosa";

anginosa"; and that "truly some of the Scarlet Fevers mentioned by Morton were not much unlike it." He also states (De Aere & Morb. ann. 1752), that the Febris anginosa, and the malignant ulcerated Sore-throat, equally exhibited an eruption of papulæ or exanthemata, and consequent desquamation of the cuticle: "Febris anginosa pustulosa grassatur adhuc plurimum: est etiam angina maligna ulcerosa perfrequens, cum putridâ febre, fœdissimo spiritûs odore, vomitu, alvi fluxu, imò et interdum faucium ipsa gangrœnâ. In morbo utroque, facilis pustularum, sudorum, aut exanthematum eruptio, magna consequenti cuticulæ desquamatione: funesta sane sunt signa, perarida cutis, aut lividæ pustulæ."

Perhaps the epidemic Febres erysipelatosæ and Febres miliares, which occurred in the years 1728-29-30, and the Febris miliaris cum pravis admodum symptomatibus, in 1731*, were the same as the disease here mentioned, but not so well understood by Dr. Huxham till afterwards.—In December 1752, he uses the term Scarlatina to express the eruption attending the Angina maligna, or malignant ulcerous Sore-throat. Decembri; Angina valdè maligna frequens: Jam eruptio non est tantum Scarlatina, sed interdum Erysipelatosa.

* See vol. I. p. 107. 111. 125. Vol. II. p. 28. 31. 68. 113. 115. 132.

In the year 1743, the *Scarlatina maligna* appeared at Paris. Much information respecting it is given, under the titles *Esquinancie maligne*, and *Mal à la gorge*, in the *Hist. de l'Acad. des Sciences*. M. Malouin, who wrote the article on epidemic disorders, observes that, in 1746, many patients died of the Sore-throat in nine hours from the commencement of fever, and that none escaped with life. Such a mortality will not now excite wonder in those who are informed that the Parisian physicians attempted to cure this disease by repeatedly scarifying under the chin, by bleeding in the jugular vein, and by extirpating the uvula, velum pendulum, and a portion of the tonsils. In 1749, Malouin connects the *Mal à la gorge* with *la Rougeole**;

* 1749, Les Rougeoles ont ce printems été avec enflure fluxionnaire de visage, et les rougeurs ont été extraordinairement long tems à se dissiper, surtout au menton. Je crois devoir remarquer à cette occasion, que les maux de gorge érysipélateux, qui ont été communs dans le même tems que les Rougeoles, ont été accompagnés de rougeurs à la poitrine, vers le cou, et aux bras. Ces rougeurs étoient en boutons qui blanchissoient lorsque on passoit le doigt dessus, et ensuite ils redevenoient rouges. Les maux de gorge commençoient presque toujours par un embarras dans la tête, une envie de vomir, et un abattement de tout le corps: Quelques uns de ces malades sont même tombés en défaillance; et enfin les élevures avec rougeurs parossoient au bras, et au haut de la poitrine. J'ai vu un de ces malades dans lequel tous ces accidents ont disparu parceque lui est survenu une enflure douloureuse à la main droite, et au pié gauche.

T t

then,

then, like many French physicians who make little distinction between la Rougeole* and la Fièvre rouge, he says, in 1751, "Les maladies épidémiques étoient des espèces de Fièvres rouges, qui ont plus attaqués les femmes que les hommes. Cette maladie ressembloit à la Rougeole: c'étoient de grandes plaques rouges, sans boutons: les malades avoient la tete enflée, les yeux rouges, de l'étouffement, et mal à la gorge." This disease continued till the year 1753, or later, though not always with the same degree of violence. Within the period mentioned, an accurate account of the different forms of the cutaneous eruption, and appearances in the throat, of the state of the pulse, the swelling of the submaxillary glands, and of the succeeding anasarca, was given by several writers † in Paris, and in other parts of France, to which the disease soon afterwards extended. The most accurate of these is Navier‡, whose observations on the Fièvre rouge were made in the years 1751-2, at Chalons and other places.

* See above, p. 289.

† Comment. Med. Lips, vol. I. pag. 91. Chomel's Dissertation on the Gangrenous Sore-throat, 1749. Rabours de Ulc. tonsillar. Mem. de l'Acad. de Montpellier. Journal de Medecine, tom. XXXI. &c.

‡ Dissertation sur plusieurs maladies populaires, &c. à Paris, 1749. See Commentar. de rebus, vol. IV. pag. 338.

The "Sore-throat attended with ulcers," which was prevalent in London during the years 1747-8, and of which an accurate account was given by Dr. Fothergill, appears to have been an epidemic Scarlatina, like the anginose Fever, and ulcerated Sore-throat described by Huxham. Although many of Dr. Fothergill's cases were certainly of the malignant kind, and he thought proper to insist generally on the putrid * tendency of the disease with a view to combat the mode of treatment then employed, yet it is evident from his treatise, that he frequently saw the disease in its mildest form. The rash, of which he has given a full description†, coincides exactly with that in the Scarlatina. It appeared on the second day of the disease, and began to decline on the fifth. He further observes, that there were, "in general, symptoms of recovery on the third, fourth, or fifth day", and that, "some grew easier from the first day of the attack‡." With respect to the affection of the throat, he says, "The disease ter-

* Pag. 49, 59, 71-2.

† Page 32. Notwithstanding this characteristic appearance, he is anxious to establish "an essential difference" between the disease he describes, and the Scarlatina (see page 3 and 52) particularly "the Sore-throat and Scarlet Fever, which shewed itself at Edinburgh in 1733." Med. Essays, vol. III. See above p. 311.

‡ Pag. 35.

minates in a superficial ulceration of some of the parts about the fauces, with little appearance of floughs if the disease is very mild; and with large and deep ones, of a white, cineritious, livid, or black colour, if it is more violent*." In another place he says, "Where the disorder is mild, a superficial ulcer appears in one or more of these parts, which may easily escape the notice of a person unacquainted with it, as it can scarcely be distinguished from the sound part, but by the inequality of surface†." He adds, that under a proper mode of treatment, "it seldom happens but that the febrile symptoms disappear, the floughs come off, and the ulcers are disposed to heal in a few days, unless it be where mismanagement at first, malignity of the infection, or an unfavourable constitution, have one or all contributed to increase the disease, and to render its consequences more lasting and mischievous‡."

The disease described by Dr. F. was attended with hæmorrhage from the nose, mouth, and ears, also from the uterus: such discharges of blood take place in every variety of Scarlatina, and in the two latter species are often fatal. He has noticed a circumstance

* Pag. 51.

† See pag. 34, 59, and 64.

‡ Pag. 67.

peculiarly

peculiarly attributed to the *Scarlatina anginosa* by most writers on that subject: "Another symptom which requires our attention in the cure of the disease, is an excessive faintness, of which they generally complain soon after they are taken ill, and continue to do so, if they are sensible, till the distemper begins to abate*."

The doctor has elucidated his observations by two instances (pag. 52, 56) in which slight cases of *Scarlatina anginosa*, seem to have proved fatal from an imprudent use of bleeding and purgatives. One of the cases so treated, he says, "was apprehended to be a common Scarlet Fever."

He remarks in concluding, "Thus much, however, seems to be true in fact, that in some cases, the disease appears to be of so mild a nature, and so benign, as to require but little assistance from art. Persons even recover from it under the disadvantages of unskilful and injurious management; whilst, in others, the progress of the symptoms is so rapid, and the tendency to corruption so strong, that nothing seems able to oppose it. Just as it happens in the Small-pox: the benign and distinct sort bears ill treatment without injury: in the malignant flux kind, the utmost art and experience are too often insufficient to conduct the distemper to a happy issue. Whether this diversity in

* Pag. 39, 40, 57.

the Sore-throat we are speaking of, is owing to a difference of constitutions, or of seasons, to the different quality or quantity of the contagion, or the manner of receiving it; or whether there are in reality distinct species, may perhaps hereafter be more certainly determined*."

That the disease described by Dr. Fothergill was an epidemic Scarlatina is further proved by a letter from Dr. Cotton to Dr. Mead, "On a particular kind of Scarlet Fever, prevalent at St. Alban's in the year 1748," published about the same time as Dr. Fothergill's treatise†. The disease had undoubtedly spread from
London

* Pag. 68.

† The influence of accidental circumstances on medical practitioners, and medical authors, was strikingly exemplified in Dr. Fothergill and Dr. Cotton. A popular alarm, first owing to the sudden death of Mr. H. Pelham's two sons, on the same day, by a malignant Sore-throat (Gent. Mag. vol. XXVII. Nov. 1739.) and afterwards kept up through reports of the appearance of this supposed pestilential distemper in other parts of the kingdom, occasioned Dr. F.'s account of it to be read with the utmost avidity. The title and tenor of his publication so far coincided with current opinion, that he soon attained the highest professional eminence.—Dr. Cotton's treatise, on the same subject, had perhaps equal merit with regard to style and precision; but as he gave an old appellation to a disease certainly not new, his work attracted little attention, and produced him no emolument. The doctor was, however, con-
soled

London to all the adjacent towns: and Dr. Cotton's narrative affords an opportunity of comparing it's appearances in the country, with its form in a crowded metropolis.

"The disease began at St. Alban's in September, and as usual, affected children more than adults. In general, the first symptoms were sickness, vomiting, and purging. A sore throat immediately followed these discharges, or sometimes appeared along with them. The pulse was quick and small; the thirst intense, with a sensation of burning heat on the skin. The tongue was often moist and but slightly furred. Some were delirious for several days together; some comatose; others had continued watchfulness without any delirium; only a few complained of headaches; and even some of those who were afterwards most delirious did not complain of previous pain in the head. Almost all experienced a sudden loss of strength, with extreme anxiety and dejection of spirits. The eyes looked watery; the countenance was bloated, and particularly the eye-lids. In many, the hands, arms,

soled by the visitation of his muse, and by the comforts of his rural "Fire-side." He declined an invitation to practice in London, considering "the metropolis as a dangerous and stormy ocean":—If we can trust the muse, his "search after happiness," among calmer scenes, was not in vain.

and

and neck, were somewhat tumefied: and sometimes a cough attended these symptoms. The tonsils, parotids and submaxillary glands suddenly swelled to a considerable degree: at the beginning of the disorder, ulcerations in those parts did not constantly appear; but in some cases, as the disease advanced, ulcuscula might be seen scattered about the fauces, being large on the tonsils, though every where superficial, and covered with a whitish slough.—The disease arrived at its height on the fourth or fifth day; after which it gradually declined: and the glandular tumours subsided. In two or three patients, the swelling of the parotids remained a fortnight longer, and suppurated largely. The cuticle separated as in other cases of Scarlet Fever. Many had a sensation of general soreness; the dejection of spirits likewise extended beyond the disease, and was accompanied with singular perturbations of the mind.”

“The Scarlet efflorescence appeared, in some, over the whole surface of the body, immediately on the attack of the disease: in others, there intervened one or more days between the first sickening, and the eruption, the rash being sometimes partial, and gradual in its advances. The legs and thighs were spotted up and down with spots of various dimensions, some as large or larger than
a fix-

a fixpence, while the trunk of the body was covered with such an infinite number of them, and so closely set together, that, no interstices appearing, the body was, in some persons, almost as red as if it had been dipped in blood. In others, the scarlet efflorescence was trifling as to the degree of colour; and so very slightly was the skin tinged, that the disease was known more from the collateral symptoms than from the efflorescence. The scarlet efflorescence not only differed, as to degree, in different persons, but even in the same patient, appearing, on the face, neck, and breast, even with the superficies of the skin, erysipelas-like, at least so far as the eye could discover, while on other parts, the eruptions were prominent, and the cuticle felt rough, with all the asperity of fish-skin that spectacle cases are made of. The appearance of the efflorescence seemed not to demand attention, so far as to influence the method of treatment, some being very delirious with the eruption fully out and intensely red, and others equally so with the eruption sparing and pale. It is a general law in eruptive disorders, that the more liberally the eruption comes out, the securer is the patient rendered thereby: and yet so little did this rule hold true in the present case, that in two patients, who died, the eruption was universal and florid to the last; and in one of them, that *anxietas circa præcordia*, which is usually most urgent, in other eruptive fevers, before the eruption breaks out, was in

this case as exquisite when the efflorescence had attained it's highest colour, as before the eruption made it's appearance."

"From this diversity of symptoms, I have found some practitioners inclined to think, that this disease could not with propriety be called a Scarlet Fever, but I imagine that such disputes are about words only. For though there is a considerable difference between the present Scarlet Fever, and that milder one which Sydenham describes; yet if an increased number of symptoms, and a more exasperated degree thereof, would authorise a physician to alter the name of the disease, I fear that confusion would be the consequence of such a liberty. For the same reasons, the Small-pox might suffer a change of it's name; because there is not a greater difference between the present, and any former Scarlet Fever, than there is between Small-pox and Small-pox; more especially if the comparison be made between the mildest degree of the distinct, and the most violent degree of the confluent form."

Dr. Starr, a physician at Liskard, Cornwall, has described, No. 49, Philosoph. Transactions, 1749, the most virulent form of Scarlatina, but under another title. He says, "We have had ravaging among us for some time, at certain seasons, a disease formidable in it's advances, and fatal in it's consequences. I mean an occult Angina,

gina, called, with some propriety, *Morbus strangulatorius*. Dr. Fothergill's Sore-throat with ulcers, and Dr. Cotton's St. Alban's Scarlet Fever, &c. are but it's shadows. Many parishes have felt it's cruelty, and whole families of children (whence it's contagious nature is but too evident) have by it's successive attacks been swept off.—Few, very few, have escaped.”

“ They complained, on the first attack, of swellings of the glands, as tonsils, parotids, submaxillary, and sublingual glands, but frequently of no great importance; some, from an internal tumour, have had a large external œdematous swelling of the subcutaneous and cellular tunic, from the chin down to the thyroid gland, and up the side of the face. In one case, the tumour broke in the fauces, but instead of a laudable pus, some ounces of coffee-coloured, exceeding fetid matter were spit off:—the man recovered.”

“ A *foetor oris* is usually an early symptom: not a few had gangrenous sloughs in their mouths, perhaps so early that the disorder was scarce complained of till the slough was formed. Others, without any of the preceding symptoms, have only complained of a slight pain in swallowing, succeeded with a hot flesh, feverish pulse, a short, low, heaving, hoarse cough, which sooner or later was productive of a difficult, noisy, and strangulating respiration*.”

* Dr. S. adds, “ I never saw one in this disorder attacked with delirium.”

“Some had corrosive pustules in the groin, and about the anus, eating quick and deep, and threatening mortification, even in the beginning. In others, after a few days illness, numbers of the worst and deepest petechiæ broke out in various parts of their body.—A child here and there had red pustules on the nape of the neck, which threw off a surprising quantity of thin transparent ichor, vastly glutinous when dry. These, if pustified or drawn with colewort leaves, were succeeded by a thick spreading slough. Nearly the same appearance took place where blisters had been applied.”

“There were large whitish membranous bodies adhering to the tonsils, velum pendulum palati, perhaps to the trachea, and often forced up by the cough with great relief.”—These Dr. Starr at first thought were of the same nature as the external sloughs. He afterwards changed his opinion, and in his statement to the Royal Society, accounts for “the mortality of the disease, and the great difficulty of it’s cure,” by observing, that in one case “the mucous coat of the velum pendulum, with much adhering slime, was separated”, and that in another, “the mucous coat of part of the larynx, [and of] the whole of the aspera arteria, with the grand division of the bronchial ramifications,” was drawn out by a thumb and finger. The patient survived twenty-four hours, “and died in the end somewhat suddenly, though in his perfect senses.” An accurate engraving represents

represents the size and form of what Dr. S. calls the separated membranes, which, however, seem to have been nothing more than condensed, adhering mucus*. Vol. XLVI. Tab. I. Fig. 1 and 2.

A malignant, ulcerated Sore-throat, with an efflorescence on the skin, appeared in some parts of Holland, about the same time as the disease, which was the subject of Dr. Fothergill's, Dr. Cotton's, and Dr. Starr's publications. Professor De Haen, who was then resident at the Hague, considered this fever to be a variety of the Scarlatina mentioned by Sydenham. He says, "Anno 1748 & 1749, pessima Scarlatina Hagæ Batavorum fuit, cum validâ anginâ inchoans, plurimosq; infantes, tum et benè multos juvenes atq; adultos occidens, imò fauces, carnesque buccarum, in ulcera maligna, ossa maxillarum in cariem, con-

* See Sandifort's Thesaurus, tom. II. pag. 352. "Anat. & chir: Professor, Rôlandus Martin, infantem, qui hoc decesserat morbo, dissecauit: —Asperam arteriam intûs, undique, singulari inductam membranâ observavit, quam sponte ferè nexu omni solutam, peculiaris tubi instar, extraxit, crassiore; griseâ, et ex putradine laciniosâ, quâ cavum sui spectabat, quâ verò asperæ arteriæ adhæserat, sanguineo-purpureâ. Quo longiùs in pulmones descenderet, eo pallidioris fuit ruboris, et in subtilissimis quidem bronchiorum ramis prorsùs albicans, speciem præbuit membranæ, quæ ovi putamen intûs investit; quâcunque verò se extenderet, evidenter a membranâ bronchiis propriâ distingui potuisse judicavit vir acutissimus. Pulmones non fuerunt inflammati, neque ullâ ratione læsi, ut suffocatione infantem periisse constaret.

vertens,

vertens, fimiliaque etiam producens in cruribus. Nonnunquam parotis, non juvans, sed indurefcens, aderat*.”

Our settlements in north America suffered dreadfully, from the same caufe, between the years 1746 and 1760, as appears from fome obfervations publifhed, in 1769, by “John Kearsley, jun. Practitioner of Phyfic at Philadelphia”† :

“In the fpring, fummer, and autumn 1746, and during part of the winter, a difeafe, fince called by the learned Huxham, Fothergill, and others, Angina maligna, or the putrid and ulcerated Sore-throat, prevailed in this and the neighbouring provinces, and fpread itfelf with mortal rage, in oppofition to the united endeavours of the faculty. Like moft new ‡ difeafes, till their conftitution and nature are known, it fwept away all before it; it baffled every attempt to flop it’s progrefs, and feemed, by it’s dire effects, to be more like the drawn fword of vengeance to flop the growth of the colonies, than the natural progrefs of difeafe.

* Theses fiftent. Febr. divisiones, pag. 25. About the same time the Scarlatina, in it’s mildest form, extended through an adjoining province (Guelderland), the account of which may be found in De Gorter. Prax. Med. tom. II.

† See Gentleman’s Magazine, vol. XXXIX. pag. 521.

‡ The impropriety of this epithet will appear from the statements, pag. 312, 314.

In

In the New England governments, the stroke was felt with great feverity : villages were almost depopulated, and parents were left to bewail the loss of their tender offspring. This disease as it appeared then, and since within these few years" (i. e. before 1769), " had most of those symptoms to characterize it, which the learned gentlemen above mentioned have handed down to us."

Similar epidemics were noted, within the same period, by Dr. Wall, Dr. Johnstone, Dr. Ruffel, and others, in different parts of Britain.

Dr. Wall * in a history of the ulcerated Sore-throat, observes, " The disease appeared in some parts of this county (Worcestershire and Warwickshire), chiefly in low situations, about the beginning of the year 1748. It then went generally under the name of the Scarlet Fever, the complaint in the throat not being much attended to, or at least looked upon only as an accidental symptom." When this disease appeared at Kidderminster in 1749, it was found by Dr. Johnstone to coincide perfectly with the ulcerous Sore-throat described by Dr. Fothergill.

The Angina epidemica, pestilens, or gangrænosa, seen

* Medical Tracts, and Gentleman's Magazine, vol. XXI. pag. 497.

many * times, in London, by Dr. R. Ruffel, before the year 1752, was attended with a scarlet efflorescence (eruptiones scarlatinæ) in some cases, partial, in others, spreading over the whole surface of the body. He has noticed the strong tendency to gangrene † in this disease, but remarks, “ Atque ego quidem, si eruptio ista mitior visa sit, morbum a Febre Scarlatinâ vix quidquam discrepare inveni, nisi fortè quod color macularum magis pupureus sit, et petechiarum speciem æmuletur.”

Prof. Cullen, following Sauvages and other nosologists, has misplaced the species *Cynanche maligna*‡. His description of the rash, connected with it, is evidently taken from the Scarlatina, and does not apply to any other disease ||. He acknowledges, indeed, that

* *Memoriâ meâ, bis, iterûmque, morbum hunc accessisse, et mox pro tempore se subduxisse, recordatus sum ; pag. 105.*—One of these appearances must have coincided with the epidemic Sore-throat described by Dr. Fothergill.

† *Tonsillas autem putrida ulcuscula occupant, et quod minimè dubito, tanquam nigrae quædam aphthæ per universum tubum alimentarium in plurimis casibus superveniunt. Pag. 106.*

Partes circa tonsillas, et laryngem nigrescunt sæpissimè, et gangrænâ tentantur. Œcon. Nat. in Morb. Gland. pag. 107.

Pessimus hujus morbi status eisdem casibus patet quibus et Erysipelas, et ad ejus naturam accedere videri potest. Pag. 108.

‡ *First Lines of the Practice of Physic, § 306.*

|| § 664, 665.

“ the

"the scarlet eruption appears on the skin under the same form in both diseases," and adds, that "he had five or six times seen the angina maligna united with the common Scarlatina"; also "that in different epidemic constitutions, sometimes one disease predominated, sometimes the other."

It may therefore be concluded, that no British author has yet described any epidemical, and contagious Sore-throat, except that which attends the Scarlet Fever*, as above stated, page 262, 275. The title "Angina maligna" would have applied with equal, if not with more propriety, to the Sore-throat connected with a different species of contagion, viz. that of the Typhus, or malignant Fever, originating in the habitations of the poor, where no attention is paid to cleanliness and ventilation. The Fever, and Sore-

* This inference, though now generally made by practitioners, has been admitted slowly, and with great reluctance. Dr. Russel, notwithstanding Dr. Cotton's previous remarks (page 326), and the strong bias of his own mind to draw the conclusion, still hesitated: see above, page 332. Even Dr. Heberden speaks doubtingly on the subject; at least he uses the qualifying expressions "Longè verisimillimum," "proculdubio," "ni fallor," "judicet lector," &c. and terminates his observations by a sort of compromise; "Verùm, ut maximè fuerint hi morbi diversi, meo quidem judicio, utriusque curatio eadem esse debet; si exceperis illa remedia, quæ, ut quibusdam visum est, faucibus sunt admovenda." Comment. page 21, 25.

throat, are sometimes communicated together*, but the disease thus complicated does not become epidemical like the Scarlatina, nor is it attended with any eruption except petechiæ. It is often fatal, but not at so early a period as the Scarlatina maligna: it may also be repeatedly received, whereas the Scarlatina occurs but once in the same person.

Since the year 1760, more correct accounts of the Scarlatina, and its varieties, have been given by many eminent authors, particularly by Plenciz, at Vienna, in the year 1762; by Angelo Zulatti, at Cefalonia, 1763 (*Giornale di Medicina*, t. II. No. 29. di Pietro Orteschi); by Sauvages, at Montpelier, 1765; by Dr. Grant, in London, 1769; by de Haen, at Vienna, 1770 and 1771; by Doctors Eichel, Bang, Meza, and Aaskow, at Copenhagen, and by Prof. Lorry, at Paris, 1777; by Dr. Levison, in London, 1777-8; by Dr. Withering and Dr. Johnstone, at Birmingham, Stourbridge, &c. 1778; by Dr. Clark, at Newcastle, 1778-9; by Prof. Rush, at Philadelphia, 1783; by Dr. Ja. Sims, at London, 1786.—All these descriptions of the Scarlatina,

* Solet præterea pestilens hujus morbi malignitas fauces invadere, et anginosos effectus efficere, tonsillarum tumores, canerosa ulcera, apthonias, gulæ resolutiones, et similia. Petr. a Castro, *De Febr. malig. punctulari* (§ XXII. page 232.) Norimbergæ, 1652. See also Ramazzini, *Constit. ann.* 1691-4, § XX. and my Reports on the Diseases in London, Pref. & page 131.

occurring

occurring epidemically at different times, and in different climates, agree more nearly than might have been expected. I may add that they coincide with my own observations, so far as to justify the distinctions I have made in this disease.

It is needless to review the entire treatise written on the subject by Plenciz. He seems to consider the dropical state which succeeds the Scarlatina anginosa, as more dangerous than the fever itself, an observation not agreeing with the experience of others.

The epidemic in Cefalonia did not resemble the disease described by Aretæus, and Aetius (page 284.7), but was a mild Scarlatina anginosa, chiefly remarkable for a prodigious discharge of intestinal worms (*lumbrici*) from the stomach as well as the bowels*.

Sauvages's account is short: "*Hac æstate Monspeliæ viget apud infantes Scarlatina, in quâ totus truncus intensè rubet cum voce raucâ, et anginâ ulcerosâ, imò in quibusdam gangrænosa. Nosol. Med. Cl. III. 9. 6.*"

Dr. Grant describes the Scarlatina anginosa under the title "*Angina erysipelatosa*," and carefully distinguishes it from the Angina maligna. He says, "The

* See Giornal. di Medicin. t. II. 29.

pain in the head, and down both sides of the neck, is common to both; the feel as of pepper in the throat, the anxiety, restlessness, and oppression, are similar in both: the purple colour of the parts first affected, the redness or flushing of the skin, and the swelling of the hands and fingers, I have also seen in the Angina erysipelatosa. In carefully comparing these two diseases, at the same time in different subjects, I observed that the specks in the Angina maligna were more like a small ulcer, the edges round the specks thicker, and as if they were more circumscribed, the slough thick and quite opaque: the skin all round, although discoloured, is not excoriated: whereas the other is a true erysipelas, and general excoriation as far as it extends; upon which are to be seen, in different places, broad patches of a thin, grey, film, which gradually spread, but do not fester and undermine as the ulcers of the Angina maligna do. Although the tonsils are swelled in both, yet the oblong external swellings at the horns of the hyoides were most considerable in the Angina maligna: so that the Angina erysipelatosa is a large excoriated surface, full of small, red, angry papillæ, and covered here and there with a grey film of irregular shape and size*." Dr. Grant concludes that this Angina erysipelatosa is the same disease as the Febris anginosa of Huxham: See page 314. From one of his cases it also

* Grant on Fevers, vol. II. 129. See the cases which exhibit several varieties of the Scarlatina.

appears

appears that the Angina erysipelatosa and Angina maligna may be produced by the same contagion. P. 136.

De Haen furnishes a case in which two persons of the same family were affected with the simple Scarlatina, while the rest had the Scarlatina anginosa with different degrees of malignity. He repeats the observations made at the Hague, in 1748, respecting the peculiar virulence of this disease: "*Tanta est frequenter ejus pravitas, ut in gangrænam sphacelumque, et fauces convertat, et buccas, et linguam, ossa in cariem vel dissolutionem, universum cruorem in mephitim*.*"

The Danish physicians noticed three varieties of the Scarlatina, at Copenhagen, in the year 1777. In the first, an efflorescence took place over the whole surface of the body: the disease affected children, and seldom continued more than four days: sometimes, however, it terminated by a discharge from the ear, or by indolent swellings of the parotid glands, which suppurated, and proved fatal after five or six weeks. In the second species, the throat was much inflamed and swelled, and the eruption appeared on the second, third, or fourth day, in red patches of different forms, chiefly about the joints. In the third species, the

* Rat. Medend. Contin. p. 44. Cas. 1. & page 134. See above, page 329. Compare Kerchvogel. Diar. Med. Pract. cap. 3. page 29.

throat was affected without any eruption on the skin. See Act. Med. Soc. Havniensis, vol. II.

Prof. Lorry's elaborate history of this disease, which he calls an "universal Erysipelas," is given in the Hist. de la Societé Royale de Medicine, tom. II. and very nearly coincides with the account quoted from Bal-lonius, above, page 292-3.

Dr. Withering, after stating the usual appearances of the disease, thus describes the "fatal form which it too frequently assumed. "In children, the delirium commenced within a few hours after the first seizure. The flesh was intensely hot; the scarlet colour appeared on the first or second day, and they died very early on the third. In others who escaped this rapid termination, when the scarlet colour turned to brown, and their recovery might have been expected, the pulse still remained feeble and quick, the skin became dry and harsh, the mouth parched, the lips chapped and black; the tongue hard, dry, and dark brown; the eyes heavy and sunk: they expressed an aversion to all food, and extreme uneasiness upon the least motion or disturbance. Thus they laid for several days, nothing seeming to afford them any relief. At length a clear, amber-coloured matter discharged in great quantities from the nostrils, or the ears, or both, and continued so to discharge for many days. Sometimes this discharge had

had more the appearance of pus mixed with mucus. Under these circumstances, when the patients did recover, it was very slowly: but they generally lingered for a month or six weeks from the first attack, and died at length of extreme debility."

"In adults, the rapidity of the fever, the delirium, &c. was such that they died upon the fourth or fifth day, especially if a purging supervened. Some survived to the eighth, or to the eleventh day: in all these the throat was but little affected: the eyes had an uncommon red appearance, not that streaky redness which is evidently occasioned by the vessels of the cornea being injected with red blood, but an equable shining redness, resembling that which we remark in the eye of a ferret. But notwithstanding this morbid appearance in the eye, the strongest light was not offensive. This redness might often be discovered by lifting up the upper eyelid, some hours before it shewed itself in the part of the eye that is usually visible; and it was of some consequence to attend to this circumstance, as it greatly influenced the event of the case."

"These patients were extremely restless, clamorous, and desirous to drink; but after swallowing one or two mouthfuls, upon taking another, they seemed to forget to swallow, and let it run out at the corners of the mouth; whilst others spurted it out with considerable force, and were very angry if urged to drink again. In these cases, the scarlet colour appeared very soon

soon after the attack, but in an unsettled irregular manner, large blotches of red intermixing with others of white, and these often changing places.—Besides the full scarlet colour described above, there were frequently small circular spots of a livid colour, about the breast, knees, and elbows. The pulse from the very beginning was so quick, so feeble, and so irregular, that it was hardly possible to count it for half a minute at a time.—It is needless to add, that the greater part of those who laboured under these dreadful symptoms died. A few recovered, and others fell into a state of debility bordering upon idiotism, from which they were rescued by time and generous living.—In one patient, a man, the jaw was so perfectly locked upon the third day, that it was impossible to get any thing down his throat; and he died early upon the fifth day.” Page 18, 21.

I met with a case similar to the last recorded by Dr. Withering. A man thirty-two years of age was affected with the Scarlet Fever, May 24, 1786. His throat was, on the 26th, so much swelled and so painful, that he was unable to drink: soon afterwards his jaw was completely locked: he became delirious, and died suddenly on the 28th in the night.

Dr. Johnstone, in 1778, observes*, “The scarlet

* Remarks on the Angina, and Scarlet Fever, of 1788. Mem. of Med. Soc. vol. III. page 355.

eruption was a much more frequent symptom, and attendant of this disease, than it used to be when I first became acquainted with it, near thirty years ago: (See above, page 331). The patients' fever and dangerous symptoms generally ran high in proportion as the efflorescence was more or less diffused, and of a deeper erysipelatous red colour. The patient, for the most part, vomited, and was purged, on the first day of seizure: the efflorescence appeared on the second, and about the fourth day, began to disappear; though it sometimes both appeared later, and continued longer. The palate, and glands of the throat were intensely red, and swelled in the same degree with the face, and other parts of the body. White ulcers often appeared from the very beginning, on the tonsils, uvula, and palate, and a thin acrid ichor flowed from the eyes and nostrils. But the ulcers, and this ichorous running, were more generally observable about the third or fourth day, or later; and when the disease took a favourable turn, health began to return after the sixth or seventh day; if otherwise, the patient died about that time."

In the populous town of Newcastle, during the same year, Dr. Clark observed, and has described, a Scarlatina, with the usual varieties, which it exhibits when it is epidemical. He says that "Some patients had an

erysipelatous inflammation of the throat without ulceration: others had ulcerations of the tonsils without any rash; and some had the scarlet eruption and fever, without any affection of the throat*."

"When the disease was malignant, the sloughs increased; the maxillary and parotid glands swelled; the eyes became dull and heavy; the face and neck were often bloated and œdematous; and the patient either laboured under inquietude, delirium, or coma. In the milder cases, after the skin began to peel off, the fever subsided, the ulcerations healed, and the patients were speedily restored to health. Several, however, who had the disease in a mild manner, fell into anasarcaous swellings, and the true hydrops pulmonis, or dropy of the cellular substance of the lungs. Some, after shewing signs of recovery, kept drooping, and though free from fever in the day-time, passed hot and restless nights. In such cases, the countenance looked pale, the face puffy, and the maxillary or lymphatic glands of the neck continued swollen. Pale thin matter ran from the nose and ears; and at last suppuration took place in the eustachian tube, which destroyed the tympanum; and some patients lost the auditory bones. When the sick applied late for assistance, the inflammation communicated to the trachea and lungs, occasioning hoarseness, incessant cough, wheezing and

* Compare Dr. Huxham, page 111.

rattling

rattling respiration. I saw several miserable objects, who had survived to the fourteenth day, with ulcerations which had perforated the velum pendulum, and with excoriations of the mouth, lips, and parts near the anus. The length of the disease was uncertain: there was seldom any sensible crisis. Some soon recovered: others had no favourable sign till the twelfth or sixteenth day. Five only, that I attended, died on the eighth day, four on the ninth, and in all the other cases which proved fatal, the patients protracted their miserable existence to the thirteenth, fifteenth, sixteenth, seventeenth, and sometimes to the nineteenth day of the disease, when it was not succeeded by dropical swellings. Soon after death, the bodies of all those whom I examined became of a livid or violet hue; and putrid gore sometimes issued from the mouth and nostrils." Page 210.

Dr. Clark has given a tabular view of the cases under his care in 1778 and 1779, from which it appears, that children under ten years of age were most liable to the disease*; that under twenty years of age, the number of males and females was almost equal: but that above this period, the number of females greatly exceeded that of the males†; a circumstance which may be easily accounted for, when it is considered that the

* See Dr. Withering, page 25.

† Compare Dr. Sims, page 438.

former were more exposed to contagion, from being employed in attending the sick.

TABLE.

Ages.	Males.	Females.	Total.	Months.
				1778.
Under 1 Year	6	1	7	June . . . 14
From 1 to 10	44	47	91	July . . . 6
10 to 20	12	13	25	August . . 18
20 to 30	4	14	18	September 33
30 to 40	0	2	2	October . 34
40 to 50	0	3	3	November 12
				December 15
				1799.
				January . 2
				February 1
				March . . 5
				April . . . 1
				June . . . 4
				August . . 1
	66	80	146	146

He observes further, that of 131 patients, 75 had the Scarlet Fever with a mild ulcerated Sore-throat; that in 33, the disease occurred with every distinguishing symptom of the Angina maligna; and that, in 23 cases, it was succeeded by dropfy. He adds, with propriety, "When it is considered that great numbers had the distemper in such a mild manner as to require no medical

dical assistance, and that application was only made for the advice of a physician, when the patients were severely attacked, perhaps the malignant cases ought not to be estimated higher than as one to twenty, in all who took the disease."

The following table exhibits the number of cases which occurred, under the different forms of the disease, in my own practice, during the year 1786.

TABLE.

Scarlatina simplex.	Scarlatina anginosa.	Scarlatina maligna.	Sore-throat without eruption on the skin
1786. April . . . 0	3 . . .		
May . . . 6	10 . . .	2	
June . . . 4	12 . . .	1	4 . . June.
July . . . 2	11 . . .	1	3 . . July.
August . 1	17 . . .	4	4 . . August.
September 2	29 . . .	9	12 . . September.
October . 3	24 . . .	5	7 . . October.
November 0	38 . . .	12	10 . . November.
December 0	8 . . .	5	2 . . December.
Total 18	152	39	42 251

In Dr. Rush's Medical Inquiries and Observations, we are informed that "After great and sudden changes of temperature during the summer of 1783, the Scarlatina anginosa became generally epidemic at Philadelphia in the month of September. In most of the patients who were affected by it, it came on with a chilliness and

and sickness at the stomach, or a vomiting, which last," he says, "was so invariably present, that it was with me a pathognomonic sign of the disease. The matter discharged from the stomach was always bile."

"The swelling of the throat was in some instances so great, as to produce a difficulty of speaking, swallowing, or breathing. In a few instances, the speech was accompanied by a squeaking voice, resembling that which attends the *Cynanche trachealis*. The ulcers on the tongue were deep, and covered with white, and in some instances with black sloughs. In several cases there was a discharge of a thick mucus from the nose, from the beginning; but it oftener occurred in the decline of the disease, which most frequently happened on the fifth day."

"I saw two cases of eruption without a single symptom of fore-throat. The face in one of those patients was swelled as in the *Erysipelas*. In the other, a young girl of seven years old, there was only a slight redness of the skin. She was seized with a vomiting, and died delirious in fifty-four hours. Soon after her death, a livid colour appeared on the outside of her throat. I can recollect but few cases which were attended with diarrhoea. The fever which accompanied the disorder was generally the *Typhus mitior* of Dr. Cullen. In a few cases, it assumed the symptoms of the *Typhus gravior*. The disease frequently went off with a swelling of the hands and feet. I saw one instance in a gentle-

gentlewoman, in whom this swelling was absent, who complained of very acute pains in her limbs, resembling those of rheumatism."

"In two cases which terminated fatally, there were large abscesses, the one on the outside, and the other on the inside of the throat. The first of these cases was accompanied by troublesome sores on the ends of the fingers. One of these patients lived twenty eight, and the other above thirty days; and both appeared to die from the discharge which followed the opening of the abscesses."

"Between the degrees of the disease which I have described, there were many intermediate degrees of indisposition which belonged to this disorder. I saw, in several cases, a discharge from behind the ears, and from the nose, with a slight eruption, and no sore-throat. All these patients were able to sit up and walk about. I saw one instance of a discharge from the inside of one of the ears in a child, who had ulcers in his throat, and the squeaking voice. In some, a pain in the jaw, with swellings behind the ear, and a slight fever, constituted the whole of the disease. In one case, the disease came on with a coma, and in several patients, it went off with this symptom. A few instances occurred of adults, who walked about, and even transacted business, until a few hours before they died."

"Such was the prevalence of the contagion which produced the Scarlatina anginosa, that many hundred people

people complained of Sore-throats without any other symptom of indisposition. The slightest occasional or exciting cause, particularly cold, seldom failed of producing the disorder. The month of October was much cooler than September, and the disease continued, but with less alarming symptoms. In several adults who were seized with it, the hardness of the pulse indicated bloodletting. The blood in one case was covered with a buffy coat, but beneath its surface it was dissolved. In the month of November, the disease assumed several inflammatory symptoms, and was attended with less danger than formerly. I visited one patient whose symptoms were so inflammatory as to require two bleedings. During the decline of the disease, many people complained of troublesome sores at the ends of the fingers. I saw one case of Sore-throat which was succeeded not only by swellings in the abdomen and limbs, but by a Catarrh, which brought on a fatal Consumption. In December, January, and February, the weather was excessively cold, the thermometer being sometimes below 0 on Fahrenheit's scale. For a few weeks in the beginning of December, the disease disappeared in the circle of my patients; but it broke out, with great violence, the latter end of that month, and in the January following. Some of the worst cases that I met with (three of which proved fatal), were in those two months. The disease disappeared in the spring, but it spread afterwards through

through the neighbouring states of New Jersey, Delaware, and Maryland."

"This disease has prevailed in Philadelphia at different seasons ever since the year 1783. It has blended itself occasionally with all our epidemics. There often appeared to be effusions of water, not only in the limbs and abdomen, but in the thorax. A number of people were affected with sudden swellings of the lips and eyelids, of the cheeks and throat: at the same time, many were affected by an inflammation of the eyes. The swellings generally came on in the night, were not attended with much pain, and went off in two or three days. In the autumn of 1788, it appeared in two instances with an obstinate diarrhœa; but it was in young subjects, and not in adults, as described by Dr. Withering. In both cases, the disease proved fatal, the one on the third, the other on the fifth day. In December, I saw one case in which a running from one of the ears and a deafness came on, on the fifth day, immediately after the discharge of mucus from the nose had ceased. This case terminated favourably on the ninth day, but was succeeded for several days afterwards by a troublesome cough."

Having already made many quotations from the other authors, mentioned page 334, I will proceed to make some observations on the method of treatment in the different forms of Scarlatina. For the Scarlatina sim-

plex, it seems only requisite to keep patients in a moderate and equable temperature, in clean open apartments; to prescribe light diet without animal food; and to give cooling liquors for drink. When there is no morbid appearance, or uneasiness, in the throat, our chief care should be to prevent needless applications; since, according to Dr. Sydenham's observation, "None die of this disorder except from a too great officiousness in the practitioner*." The same author recommends one or two gentle purgatives after desquamation. He also mentions epileptic convulsions, and coma, as frequent appearances at the beginning of the disease, which he relieved by blisters, and repeated doses of diacodium.

2. In the *Scarlatina anginosa*, physicians on the continent have recommended bleeding † from the arm, or, when the head is much affected, from the jugular veins. Dr. Morton ‡ adopted the same practice in most of the cases he attended even in London. Blood-

* *Nimiâ medici diligentia. sect. VI. cap. 2.*

† De Haen, Navier, Plenciz, Aaskow, Eichel, De Meza, &c. &c. In *epidemiâ Havniensi* subindè dabatur locus venæsectioni, sc. in plethoricis, et ubi pulsus durus, cum aliis inflammationis signis, atqui ubi putredinis criteria minus tuta erant. De Meza, *Compend. Medic. Pract.* vol. I. c. 18.

‡ De Febr. inflam. universal. cap. 5.

letting

letting has been also recommended in the northern parts of our island, where the disease is said to assume somewhat of an inflammatory form. The Medical Essays * state, that in the epidemic Scarlatina of 1733 at Edinburgh, "few died who were timely and plentifully bled, which weakened the fever, relieved the throat, and was the only medicine that removed the vomiting and diarrhoea."

During the years 1785, 1786, 1787, and since, when the Scarlatina anginosa was epidemical in the metropolis, I never saw a case in which blood-letting appeared to be indicated. Wherever it had been employed, great depression and faintness were the immediate consequences, the pulse becoming more weak and frequent, and often irregular. Of two adults who had been bled largely, one died before the time of desquamation, the other lingered in a very precarious state upwards of twenty days, but at length recovered. The experience of Dr. Withering, Dr. Clark, and Dr. Sims, on

* Vol. III. p. 27. See Cullen's Pract. of physic, § 671. Dr. Huxham says, "In the Febris anginosa, they bore bleeding at the beginning with advantage, and the blood was often sily, though much less so in general than in quinsies of the truly inflammatory kind: they very seldom, however, admitted of large bleeding; scarce any, indeed, of a second."

Dr. Cotton's observations in 1748 nearly coincided with those of Huxham.—Compare "Observations on the Sore-throat and Fever in the north of Scotland, 1777, by Robert Saunders, M. D. Physician at Bamff."

this point, agrees exactly with mine. Dr. W. observes, "Such was the state of the pulse, with us, during the hot summer months, that I never saw a case in which blood was taken away : nor would it be easy to conceive with what view the boldest, or the most ignorant practitioner would have dared to attempt it; for in those cases where the inflammation upon the surface was very great, the loss of blood could only contribute to the further depletion of the larger vessels, and thereby increase the debility and faintness which already existed in a most alarming degree : for the small vessels accumulating the blood more in consequence of their own action, than from the pulse of the heart, would not be affected by the usual mode of blood-letting ; and the extent of the inflammation was much too great to allow us to have recourse to topical bleedings. Sometimes where the fiery redness of the eyes, and the state of delirium, seemed to demand the application of leeches to the temples, I have seen them applied, but never with any good effect. In one instance, where the constant rejection of every thing that was swallowed, even simple water, and the pain in the stomach during the efforts, seemed to indicate an inflammation in that organ, blood was taken away, notwithstanding the feebleness of the pulse. This blood was fizy. The bleeding was repeated ; but no very evident advantage accrued to the patient. I think therefore we may conclude, that when the scarlet colour upon the skin is intense,

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we cannot expect to benefit either from topical or general bleedings.—In the autumn, when the scarlet colour of the skin was seldom intense, and often did not appear at all, the tumefaction of the fauces was generally much greater, and the pulse considerably more firm. In this case, if the patient was threatened with suffocation, if violent head-ach, or if peripneumonic symptoms pointed out the expediency of blood-letting, it was sometimes done; but still with less advantage than one would have expected in almost any other situation.” Page 73—5.

Purgatives have nearly the same debilitating effect as blood-letting. They are indeed very seldom necessary; for though a few patients may, on the first day, be affected with bilious vomiting and diarrhoea, the state of the bowels is more uniform * than in other febrile complaints. It has also been remarked that no hardness or tension of the abdomen occurs at an early period of the disease.

* See Dr. Withering, page 17. Dr. Sims says, “They were almost never either costive or purged.” *Memoirs of the Med. Soc.* p. 403. He nevertheless ordered rhubarb and sal polychrest in equal proportions, so as to produce two motions every day.—I think the occasional stimulus of a small dose, as two or three grains, of calomel very useful. On the first attack of the disease, I have usually added an equal portion of antimonial powder.

Emetics are recommended by the best writers on this subject*. I have not found it necessary to repeat them so often as Dr. Withering advises; but I think that all he has said respecting their use and application merits particular attention. "In the very first attack, a vomit seldom fails to remove the disease at once:— If the poison has begun to exert its effects upon the nervous system, emetics stop its further progress, and the patients quickly recover. If it has proceeded still further, and occasioned that amazing action in the capillaries, which exists when the scarlet colour of the skin takes place, vomiting never fails to procure a respite to the anxiety, the faintness, and delirium." "In autumn, when the throat was more affected, when the tumefaction of the fauces was such that the patients could not swallow but with the utmost difficulty—when the peripneumonic symptoms threatened suffocation, and bleeding was ineffectual, an emetic opened the gullet, and unloaded the lungs, so that deglutition became easy, and respiration free. But it is necessary to add, that a vomit only sufficiently strong to evacuate the contents of the stomach, is by no means adequate to these effects. The vomit must be powerful, and in ordinary cases repeated once in forty-eight hours; in those with more urgent

* Burserii Institut. tom. II. page 72, § LXXXIII. See the striking passage on this subject, quoted above from Tournefort, page 287.

symptoms daily ; and in the worst cases twice in twenty-four hours. The patients never fail to express the relief they find after the operation, and the physician soon discovers it in the countenance, and in the pulse. As to the form of the emetic, the practitioner may vary it as he pleases ; but I generally combine tartar emetic in solution with ipecacuanha in powder, that I may be more certain of their full effect on the stomach, and avoid the danger of their acting as a purgative. I also give them in much larger doses than usual, in order to secure a certain violence of action upon the system." Page 75-8.

Dr. Rush says, " In every case that I was called to, I began the cure by giving a vomit, joined with calomel*. The vomit was either emetic tartar or ipecacuanha, according to the prejudices, habits, or constitutions of the patients. A quantity of bile was generally discharged by this medicine. Besides evacuating the contents of the stomach, it cleansed the throat in its passage downwards. To insure this effect from the calomel, I always directed it to be given mixed with syrup, or sugar and water, so as to diffuse

* He observes in another place, that " When the Scarlatina appeared to be in a forming state, a vomit of this kind never failed of completely checking the disorder, or of so far mitigating its violence, as to dispose it to a favourable issue in a few days."

it, generally, over every part of the throat. The calomel seldom failed to produce two or three stools. In several cases I was obliged, by the continuance of nausea, to repeat the emetic, and always with obvious and manifest advantage. I gave the calomel in moderate doses in every stage of the disorder. To restrain it's purgative effects, when necessary, I added to it a small quantity of opium."

Dr. Binns, having an opportunity of seeing the children at Ackworth from the commencement of the disease, gave an emetic almost in every case, and sometimes repeated it after twelve or twenty-four hours. When the patients were extremely languid, he gave wine, or liquor volatilis cornu cervi, before the emetic or during it's operation. He adds, "My acknowledgments are due to Thomas Oxley, of Pontefract, not only for his frequent attendance, but for his removal of a prejudice against laxatives in the early stage of the disease, imbibed from various authors, and confirmed by the dreadful consequences I had seen when a diarrhoea came on in this Fever. By his persuasion, small doses of Calomel, and other laxatives, were occasionally administered*; and so far from producing

* This practice was more boldly enforced by a physician at Ipswich, when the "Ulcerated Sore-throat and Scarlet Fever" prevailed there in 1772. He made a powder, with Pulv. Ant. p. 3. Calom. p. 1. of which
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ducing injury, I believe that by evacuating the acrid matter, which is often swallowed, they had a tendency to prevent excoriations of the intestinal canal, and the consequent diarrhœa, which I dreaded. But it should be remarked that particular care was taken to support the patient during the operation."

In cases of *Scarlatina anginosa* where the throat is inflamed, and swelled, so as to occasion very painful deglutition, blisters applied between the shoulders, or to the external fauces, afford considerable relief. Dr. Clark observes, "In regard to blisters, meeting with an instance where their application was succeeded by mortification, I did not often apply them to the throat; but in several cases, where the inflammation of the fauces was great, they were of advantage when applied to the nape of the neck*." Dr. Withering, from his experience in the disease at Birmingham, decided against the use of blisters. He says, "If the brain was affected soon after the attack, they

the dose was from 10 to 30 grains. To children he gave calomel alone, in the same quantity. A julep was at the same time prescribed, with an ounce of Manna, and a drachm of Cr. Tart. in half a pint of water;—the dose three table spoonfuls six times a day. Of three hundred persons, thus treated, none died. See *Gent. Mag.* for June, 1772.

* Dr. Rush says the same. He applied blisters to the neck, or behind the ears on the third day. See also Dr. Sims, p. 325.

did much mischief; but if the inflammation was pretty much confined to the fauces, a blister was frequently applied round the throat, but with less advantage than the practice in Quinsies, ulcerated Sore-throats, and other local inflammations, would teach one to expect*." Page 91.

It is proper to enjoin the regimen directed for the simple Scarlet Fever, page 350. As we observe the *Scarlatina anginosa* to be generally mild in spring and summer, but severe during the winter months, we may infer that a heat of about 60°, preserved in the apartments of the sick, will be most agreeable and beneficial to them†.—In the first six days of this disease, many practitioners endeavour to excite perspiration by antimonials, camphor, aromatics, dulcified spirits, and volatile alkali saturated with vinegar, or juice of

* "As blisters excited considerable irritation, they were only applied when there was a comatose disposition, much pain in the ears, or an enlargement of the parotids." Dr. Binns.

† "If the disease prevail in any of the summer months, blisters can hardly be used with safety." Kearsley.

‡ "Cold air is always found to be prejudicial, either by protracting the disease, or by throwing it on the lungs, or on some other part necessary for life. It has been frequently observed, that if persons seemingly recovered, and freed from all the manifest symptoms of the disease, went into the cool air, before the putrid heat or ferment was quite exhausted, they had relapses." C. Colden, *Med. Obs. & Inq.* I. page 218. and Dr. Withering, pag. 294-5.

lemons.

lemons*. If the efflorescence be full and vivid, such remedies, for the most part, fail to produce their usual effect, and often increase the heat, anxiety, and restlessness, they were intended to relieve. The experience of Dr. Currie, supported by that of Professor Gregory and other practitioners, fully evinces the salutary effects of the repeated affusion of cold water, during the eruptive stage of Scarlatinæ†. Physicians in London, who are seldom allowed by the patients' friends to employ the cold affusion, either in the Typhus or Scarlet Fever, have been induced to sponge

* Dr. Huxham, page 114. Dr. Fothergill, page 54. Dr. Grant, 24, &c. Plenciz, De Scarlatinâ. Act. Hafn. tom. II. &c. Med. Obs. and Inq. vol. I. page 219. Dr. Blackburne, page 27.—I never succeeded in the endeavour to excite perspiration, before the decline of the efflorescence. When sudorific medicines and oppressive coverings are applied, they produce an universal miliary eruption, and aggravate the febrile symptoms.

† See Dr. Currie's Medical Reports &c.—The author justly reproaches the conduct of those who adopted his practice without attending to his principles, and prescribed the cold affusion in Fevers, when the constitution was sinking under the long continued influence of contagion, or other causes. This inconsiderate mode of practice having been, in many cases, attended with fatal consequences, an alarm was early excited, which yet prevents the inhabitants of London, and, I believe, of many other places, from experiencing the benefit of a most powerful remedy.—It is unnecessary for me to make quotations from Dr. C.'s Treatise, which will be circulated much more extensively than my own.

the whole surface of the body frequently with vinegar and water. During a hot season, or whenever the heat of the skin is much increased (see page 264), the patient is greatly refreshed by this application, the pulse becomes more steady, the heat and fever abate, and a calm sleep usually succeeds*.

I have of late given, at an early period of the disorder, Oxygenized Muriatic Acid, which, when it is accurately prepared, appears to be very beneficial. The dose for adults is half a drachm by measure, for children ten or twelve drops. Before this medicine is used, it's state should be ascertained by a chemical

* "The Scarlet Fever prevailed among the children at the Foundling Hospital, from the end of June to the middle of October, 1804. Fifty-two boys, and nineteen girls, were affected with it. Three boys died of the fever; a fourth died dropsical some time after being dismissed from the infirmary. Most of the patients were repeatedly washed with cold water and vinegar, mixed in about equal proportions. Only the hands and arms were washed in those who had no considerable heat of the skin, but when the heat became excessive, the washing was extended to the trunk of the body, and to the lower extremities. It's effects in cooling the skin, diminishing the frequency of the pulse, abating thirst, and disposing to sleep, were very remarkable.—Finding this application so highly beneficial, I employed it at every period of the fever, provided the skin were hot, and dry." Dr. Stanger.

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test*, since it is soon decomposed by exposure to the air, or to light: it then becomes rough and offensive to the stomach, so as often to produce violent sickness, pains of the bowels, and diarrhœa†.

* "The oxymuriatic acid should contain as much of the gas as water can absorb under the common pressure of the atmosphere, and at a temperature of from 50° to 60°. To a tubulated retort, adapt a quilled receiver, connected with the three bottles of Woolf's apparatus, each bottle being half filled with water. The retort is to be charged with three parts of muriatic acid, and one part of the black oxide of manganese in powder: all the junctures must be closely luted: a very gentle heat from a lamp will be sufficient to expel the oxymuriatic acid gas: much heat should be carefully avoided. All the common muriatic acid gas will be arrested by the water in the first bottle. The oxymuriatic gas is retained in the second and third bottles. By a similar process, this gas may be obtained from the oxygenized muriate of potash and muriatic acid; but it cannot be correctly prepared otherwise than by distillation. When litmus paper is plunged into the true oxymuriatic acid, it is deprived of colour; but if common muriatic be present, the paper will instantly receive a red tinge, and thus ascertains that the preparation is unfit for medical use."

W. Allen.

† "At the Foundling Hospital, one drachm of the oxygenized muriatic acid mixed with half a pint of water was given, every twenty-four hours, to children under six years of age. Children more advanced took nearly double the quantity in the same time. This remedy appeared to be cooling, and antiseptic. It was taken without repugnance, and in the doses above-mentioned, did not produce any uneasiness in the stomach, or bowels." Dr. Stanger.—See Med. & Phys. Journal, No. 62.

Dr.

Dr. Sims found particular advantage from Vitriolic Acid, given in considerable doses: he says, "My common prescription was, two ounces of tincture of roses, a drachm of syrup of lemons, and twenty drops of spirit of vitriol, or as much as could be added to the tincture, without making it too highly acid for the patient it was prescribed for. This draught was ordered to be taken by an adult every hour and half, or every hour, and even oftener, according to the exigency of the case. And even children, from two to three years old, have swallowed much above two hundred drops of the acid in twenty-four hours." Page 419.

Dr. Withering thinks that Diuretic medicines, next to emetics, are most to be depended upon in the cure of the disease. He found the vegetable fixed Alkali to answer best: a small quantity was put in every liquid the patient drank, so that the whole might amount to one or two drachms of the salt, every twenty-four hours. Page 83-4.

Acidulated Gargles appear to remove, and sometimes to prevent, the affection of the throat in persons exposed to contagion: see page 269: when the disease has commenced, they carry off the virus with which the saliva is tainted*. In Dr. Binns's opinion, "Gargles

* See Dr. Fothergill, page 63.

are

are of so much importance, that they can scarcely be used too often": "To them, he says, "it was chiefly owing that few of the children at Ackworth school had a diarrhœa, or any affection of the intestinal canal. When patients could not gargle in the usual way, the liquor was injected by a syringe; this, though frequently repeated, never appeared to produce the least inconvenience. I began with the acidulated infusion of Red Rose leaves; but the roses being soon consumed, I had recourse to the Decoct. Hæmatoxyli, and lastly to the following; R. Decoct: cort: Querc: cong. xii. Alum: commun: lbjss. Solve, fiat gargarismus. It was hoped this gargle would have been serviceable in reducing the swelling of the tonsils, which remains after the disease; but the trial terminated in disappointment. An infusion of Cayenne pepper was also tried with the same intention, but had not any material effect."

Respecting the use of Peruvian Bark and Wine, the same gentleman expresses himself as follows: "As soon as the stomach was settled after an emetic, see page 356, I generally began with the following mixture, R: Pulv: Cinchonæ unc. j. Pulv: aromat: dr. ij Vini rubri lbij. When this had been used about six weeks, I substituted for the Aromatic powder some Canella alba, with one drachm of powdered ginger, which seemed to answer equally well. A child of ten years old would take
about

about three table-spoonfuls of this mixture four, five, or six times, in twenty-four hours. Those who were very ill, took in addition, from a pint to a pint and a half, or even more, of red port wine, or of a composition*, which was not unpalatable, which agreed well with the children, and was a considerable saving to the Institution. Another remedy was an infusion of Red Rose-buds in decoction of Peruvian Bark, sweetened with extract of liquorice, and acidulated with Vitriolic acid: to this was occasionally added simple, or compound, tincture of Bark. In extreme cases, the extract and compound tincture of Bark, with a little Ammonia, and sometimes Aromatic confection, were made into a mixture with peppermint water, a dose being given every half hour.—Such as were but slightly affected generally drank treacle-beer made with ginger in it, small ale, and sometimes cyder, sage-tea acidulated with vitriolic acid, and almost every other drink that was agreeable to them. New milk, and every nutritious food, both animal and vegetable, were allowed as the patients could take them. It is impossible to specify, with certainty, the quantity of wine taken by individual patients, but from the general consumption, when a number of bad cases occurred together, it ap-

* This was, red port 2 pints, raisin wine 6 pints, decoction of logwood 1 pint, alum 1 ounce, British brandy 8 table-spoonfuls.

peared that children about twelve years of age must have taken each a bottle of red port, and a bottle of raisin wine, in twenty-four hours, for several successive days. In a disease, the attack of which is apparently inflammatory, this practice may seem to add fuel to fire; but I have employed it for many years, with as much success as any of my brethren, and I fully experienced it's advantages in the late disease at Ackworth. I was induced to push this plan further than many other practitioners, by observing the effect of cordials on the circulation: while the pulse remained low and fluttering, wine, frequently given, restored it's firmness, without increasing delirium. By the same means, the foetor of the breath was corrected, and the ulcerations in the throat greatly relieved. Although the state of the pulse, and other symptoms, were in many cases such that a small proportion of Bark and Wine were sufficient, yet in other instances the debility was so great as to require even the addition of Brandy to the red port. Sometimes strong brandy and water, sometimes brandy unmixed, was given with comfort and advantage to the patient. No one should, however, be induced to take Spirit as a preventive in Scarlatina, or other epidemic Fevers. Those who wish to have the advantage of Spirit when attacked with such diseases, ought never to indulge, during a state of health,

in what can only be used, with propriety, as a medicine."

Whatever opinion may be formed respecting the above mode of practice during the first days of the fever, it is generally admitted that, at the decline of the efflorescence, if the fever also declines and is not succeeded by a cough, Peruvian bark, mineral acids, wine, and nutritious diet, obviate the debility and oppressive languor, which remain after the disease*, and contribute to prevent the accession of dropfy†.

* Dr. Sims, however, says, "I found it necessary to change my plan as soon as the height of the disease was passed. This was a point of the treatment as needful to be known, and exactly to be attended to, as any other in the malady; for as soon as the pulse on the sixth day began to fall to the natural standard, if the cordial medicines and regimen were persisted in, or increased, with a view to keep up the sinking pulse, many vexatious or even dangerous consequences ensued: a new fever, often more violent than the first, was raised; a great swelling and inflammation of the tonsils or parotids, with acute pain, came on, and the scarlet eruption re-appeared as copiously as before." Page 422.

Are not the above symptoms referable to the secondary fever, which often takes place independently of the medicinal treatment? See page 277-8.

† Dr. Binns observes, that the disease, when thus treated almost from its commencement, was "very rarely succeeded by dropsy."

"An infusion of the Bark acidulated with Elixir of Vitriol, may be ranked as the greatest, best, and most sovereign remedy, provided that gentle Emetics, and the cordial Diaphoretics had gone before." Kearsley. Gent. Mag. vol. XXXIX. 522.

De

De Haen, and others*, as well as Plenciz (page 335), consider the dropfical stage to be the most fatal period of the Scarlatina anginosa. Their opinion is not confirmed by the experience of practitioners in this country, who have generally found the dropfical symptoms yield to Diuretics combined with Peruvian bark, preparations of Iron, or Calomel†.—I do not mean to infer that my countrymen are successful in this stage of the disease by any peculiar practice. If they have had more success, in the treatment of Scarlatina, than physicians on the continent, I would ascribe it to the general difuse of bleeding and purgatives during the last thirty or forty years, within which period, gan-

* Ex hoc consecratio plures moriuntur quam ex morbo primario. De Meza, tom. I. 59.

† Dr. Clark, Dr. Sims, and Dr. Withering, page 199.

Plenciz highly recommends the following prescription of Dr. Weber.

R. Rhæbarb elect.

Spir. Salis coagulati aa dr. ij

Mercurii dulcis

Auri fulminantis

Extracti Scillæ aa dr. ss.

M. fiant pilulæ cum Robo Juniperi, pondere unius alteriusve grani.

The dropfical swellings in every case attended by Dr. Rush, were removed "by purges of Calomel and Jalap."

Small doses of Calomel are allowed, on all hands, to be useful when glandular tumours succeed the Scarlatina anginosa.

grene and dropfy have been, with us, much lefs frequent occurrences than formerly.

3. In the ulcerated scarlet Sore-throat, which affects adults without an efflorescence on the skin (page 273), Emetics, given early, prove of great advantage, and the general treatment recommended in the Scarlatina anginosa will be found effectual. Gargles, whether acid, or detergent, if very sharp, or if injected forcibly enough to remove the sloughs, occasion much pain, and often protract the disease. Dr. Wall, Dr. Johnstone, Dr. Rush, and others*, recommend the inhalation of the vapour of myrrh and vinegar. Dr. J. C. Smyth's mode of fumigation, by pouring heated oil of vitriol on powdered nitre in a proper vessel, is, according to my own observation, entitled to a preference. The refreshing antiseptic vapour detached by this process, and circulated through the room, presently clears the patient's throat, and at the same time removes the foetor both of the breath and perspiration.

* "I have generally ordered the hot steams of vinegar, in which wormwood, centaury, snakeroot, galangal, myrrh, and honey were boiled, to be drawn through a funnel into the lungs. As this vapour acted upon the uvula, tonsils, and fauces, by its antiputrescent and detergent quality, it often saved me the necessity of using any sort of gargism." Kearsley. Compare Dr. Wall, Gent. Mag. XXI. p. 498.

4. In the SCARLATINA MALIGNA blisters are seldom useful, and sometimes prove injurious. Withering says, they "were universally detrimental: they never failed to hasten the delirium, and if the case was one of the worst kind, they too often confirmed it's fatal tendency." Page 89.—Bleeding and purging are always hurtful: a strong cathartic, or even the application of a few leeches to the throat, has been known to produce an immediate sinking, and sometimes death within a few hours, in cases which seemed previously favourable. Dr. Fothergill was among the first to discourage this destructive practice*. An instance of it's effects, quoted above (page 299), from a Spanish physician, must strike a practitioner of the present day with horror. From Spain the disease spread into Italy, where under the same mode of treatment, it proved universally fatal on the second, third, or fourth day of fever: page 265. It is extraordinary that after so dreadful a mortality, no physician should have thought of instituting a different mode of practice. None of them, how-

* Pag. 53-4. Dr. Huxham persevered in blood-letting till the year 1750, though he says, "It will be constantly found that the pulse, as well as the strength, sink vastly after the second or third bleeding, and truly very surprizingly after the first." Dr. Grant was also an advocate for bleeding in Angina maligna, 1770. On Fev. vol. II. p. 104. 124. and on Sore throat, page 26. For the effects of this practice, see M. Chomel's cases, Paris 1749, or Grant on Fevers, vol. II. page 213.

ever, would recede from the plan or maxims they had adopted, so that the honour of arresting the progress of this disease, and of effecting its cure, was claimed by a bold empiric*, who attracted general attention by advertising a specific remedy, which was merely a cretaceous earth, or bole, said to be the Samian earth recommended by Galen for ulcers of the mouth. We cannot now impute Charamonte's success, which was certainly very great, to an inert powder, but must refer it to collateral circumstances. A principal one seems to have been, that when the Neapolitans and Sicilians were induced to confide in a specific, they no longer submitted to the usual purging and bleedings, which, in opposition to the whole faculty of Naples, Charamonte decidedly reprobated as the causes of the preceding mortality. The event was by no means in favour of medical science at that period; for, soon after the trammels of regular practice were shaken off, we find that the disease became less frequent, and less fatal, though its name impressed terror through many succeeding generations.

Dr. Fothergill and Dr. Cotton do not strongly enjoin the exhibition of Emetics in the Scarlatina maligna. Dr.

* See Osservazione del contagioso mal di Canna; Di Girolamo Charamonte, della città di Leontini. In Napoli, 1637.

Huxham,

Huxham, though very cautious with regard to them, has justly observed, that "Emetics do not aggravate the pain of the throat in adults, but in general greatly relieve it;" and that, "it was frequently necessary to vomit children with a little oxymel of Squills, essence of Antimony, or the like, otherwise the vast mass of tenacious mucus would have quite suffocated them."—A bold and persevering course of Emetics, recommended page 354-5, may be considered as the most effectual mode of obviating the singular malignity of this distemper*. When administered in due time, they very generally prevent the transition from the milder to the more virulent forms of the Scarlatina, mentioned page 277, and remove the febrile symptoms at the earliest possible period. In dubious cases, if powerful doses of Ipecacuanha, either alone, or combined with tartarised Antimony, entirely fail to produce their usual effects, it

* Sed nullibi magis emesis necessaria, quam ubi a miasmate epidemico origo morbi pendere videtur; subtracto enim per vomitum fomite primas vias ingresso, multò mitior morbus evadit. Id in primis perspectum sæpe est in epidemica Scarlatina cui angina aphthosa, aut gangrænosa adjungitur. Burserius, Inst. Med. Pract. vol. II. § 82.

Kearsley (see page 330) makes nearly the same observations, and adds, "The vomiting being sometimes repeated, and seconded by subacid camphorated diaphoretics, generally maintained the advantage, and effectually checked the discharge from the bowels, which had before well nigh destroyed the powers of life." Compare Tournefort's Remarks, page 287-8.

may

may be concluded that the most unfavourable state of the disease has begun, and that the patient's situation is extremely dangerous*.

The nitrous fumigation (page 368), seems particularly useful in keeping the throat clean, and often supercedes the necessity of Gargles. Gargles however, contribute to remove the viscid offensive matter which encumbers the fauces, and which if swallowed, produces disagreeable effects on the stomach and bowels. Those prepared with Contrayerva, according to the directions given by Dr. Fothergill†, are the most grateful, and advantageous. It is probable that gargles of a much more stimulating quality would afford relief at an early period of this disorder. Tournefort observes, that in the epidemic Sore-throat of infants at Milo (see above, page 287), after repeated emetics, a solution of styrax in brandy, employed as a gargle, had an excellent effect‡. Navier also states, that the progress of internal gangrene may be arrested by a gargle composed of oxymel, and camphorated spirit made with alkaline

* See Reports on the Diseases in London, page 25.

† On the Sore-throat, page 64. Compare Withering, page 91.

‡ "La solution de styrax liquide dans l'eau de vie est excellente en gargarisme, a cette rencontre."

"The only gargle that I have seen any service from is brandy, with a little water, or frequently without any mixture whatever." Sims, page 424.

salt, according to Hoffmann's method. In the West India islands, where the Angina maligna appears in the same form as in the Levant (page 287), the favourite gargle is made with Capficum, or Cayenne pepper, which, though productive of much pain, is said to be very efficacious*.

Occasional immerfions in warm water† are recommended in this form of Scarlatina by some practitioners. I never tried the effects of warm bathing, but have observed considerable advantage from the application of warm vinegar and brandy to the limbs, and to the greater part of the body‡. Dr. Currie remarks, that "the affusion of cold water is scarcely applicable to the Scarlatina purpurata, and that the tepid affusion makes little impression upon it."—He

* These strong applications do not impede the healing of the ulcers in the Scarlatina maligna; for when there is loss of substance, it is not replaced by granulations as in cases of simple ulcers or sloughs, but the cavities are hastily skinned over, without being filled up, and therefore often remain apparent, through life, on the uvula, tonsils, &c. See Dr. Adams on Morbid Poisons, chap. VI.

† Dr. Withering, page 93.

‡ "As an auxiliary to stop the progress of putridity, bathing the body with very strong warm vinegar, particularly the legs and thighs, throat and breast, was of no inconsiderable use." Kearsley.

adds, "I must again enforce the superior advantage of using the cold affusion early in this disease, and the propriety of ascertaining that the skin is dry, and the heat of the patient greater than natural, in all cases, especially in such as are advanced, and where, of course, the strength is considerably impaired." Pag. 458: see above 359.

When Emetics have not been exhibited at the proper period, it becomes necessary, as the disease advances, to direct cordials, wine, opium, Peruvian bark, mineral acids, &c. according to the circumstances of the case. The Bark has been particularly recommended by De Haen, Sauvages, Navier, Plenciz, and other physicians on the continent. Their opinion is confirmed by the testimonies of many British authors, as Morton, Wall, Cameron, Johnstone, Huxham, Cullen, Clarke, Percival, &c. Dr. Wall says, "When I first gave the bark, I was not so much directed to its use by the ulcerations in the throat, as by the petechiæ which appeared in the patient; but I was not a little surprised and pleased to find, that this method succeeded so immediately both with regard to one and the other. I now began to recollect what I had formerly * observed in the Small-pox, "that nothing so immediately cures a Sore-throat

* Phil. Trans. March 1746-7.

of the malignant sort as the Bark does; and I was soon convinced by a multitude of instances, that, for the same reason, it is truly a specific in the case before us." Medical Museum, Vol. I. No. 14.—The terms here made use of are certainly too strong; for although the bark may be in many cases very useful, it often disappoints our expectations, and where the disease has been improperly managed in the beginning, or where the symptoms are violent, it seems wholly inefficacious. Dr. Withering is the only author, however, who, from experience, declares the Bark to be universally prejudicial in the Scarlatina. "In some instances," he says, "the inflammation attendant upon the disease is in itself sufficient to produce the sloughs, but they are generally the consequence of neglect or improper management; for if the patient, from the beginning, is treated upon the plan I advise, the sloughs either never appear, or if they have appeared, never increase; and in twenty-four hours vanish altogether. But when that inflammation is still augmented by large and frequent doses of Bark, it is astonishing to see how much the tumefaction increases, and how rapidly the whole lining of the fauces is converted into a stinking slough. It is true, nevertheless, that many patients recover who take Bark. The fact seems to be, that in mild cases, an improper mode of treatment is not highly detrimental: it is only in the more dangerous state of

the disease that we can do much harm. And I am ready to confess, that in two or three of the first bad cases I saw, misled by so many marks of putrescency, I gave the bark; but the consequences were not such as could justify a continuance of it."

Mr. J. Kearsley, though an advocate for the use of the Peruvian bark in the Scarlatina maligna (see above, page 366, note) seems to be strongly impressed with the advantages of another remedy. He says, "There yet remains one thing, which is of great consequence in abating putrefaction, and which may be taken diluted with water. It is an infusion of gum Myrrh, one ounce in a pint of the strongest vinegar. A pap or tea-spoonful of this tincture may be mixed with barley water, and given to the sick in any stage of the disorder." *Gent. Mag.* Vol. XXXIX. page 523.

The internal use of Capsicum, at the beginning of the Angina maligna, is said to have been attended with very great success in the West Indies. An infusion is made in the following manner: "Take two table-spoonfuls of small red pepper, or three of the common Cayenne pepper, and two tea-spoonfuls of fine salt; beat them into a paste, and then add to them half a pint of boiling water. Strain off the liquor when cold, and add to it half a pint of very sharp vinegar.

Let

Let a table-spoonful of this liquor be taken every half hour, as a dose for an adult; the quantity being diminished in proportion for children." A particular account of the epidemic Sore-throat thus relieved, and of the effects of the remedy, is given in the Medical Communications, Vol. II. and in Dr. Duncan's Medical Commentaries for the year 1787.

A physician near Gainborough considers Volatile Alkali "to be endowed with a specific power over the Malignant Scarlet Fever and Sore-throat." He dissolves two drachms of the carbonate of Ammonia in five ounces of water, and directs the patient to take half a table-spoonful, or two tea-spoonfuls, every two, three, or four hours, according to the urgency of the symptoms. If the difficulty of swallowing abate, and the patient wish for it, a little cold water may be added to each dose:—cold water, or toast and water, to be drunk at pleasure. The above remedy was given in every form, and in every stage, of the Scarlatina.—"Some," he says, "were glowing with universal efflorescence: in some, the extremities were swelled; in others, foetid ulcers appeared, particularly about the parts of generation: in most, the throat was swelled and inflamed, often ulcerated, and respiration almost prevented: but in the most alarming cases, a scorching fever, and raging delirium, rendered the patient's situation horribly
alarming;

alarming;—yet in all these variations of the disease, the volatile Alkali was my specific, which I administered to between two and three hundred patients successively and successfully.” The immediate effects of the remedy are stated to be, a diminution of heat, fever, and delirium, and a disposition to sleep*.

There is not any certain preservative from the contagion of the Scarlatina, for persons within it's influence. After exposure to the effluvia or breath of the sick, in attending to the symptoms, and examining the throat, it is usual for medical men to have a sensation on the tongue as if green vitriol were dissolving in the mouth. This taste remains for some hours, nor can it be obliterated by gargling with water, acid, or spirit. It excites nausea in some persons, and very generally occasions repeated discharges of saliva, which may perhaps prevent the poison from entering the fauces or stomach, and from affecting the constitution. In conformity to this notion, Dr. Withering recommends sternutatories, and gargles of caustic Alkali largely diluted with water. The use of camphor, bark, wine, vinegar, and fumigation, is insufficient to prevent the diffusion of contagion, especially in schools, or other

* Dr. E. Peart's "Practical Information on the Malignant Scarlet Fever and Sore-throat." 1802.

places where many young persons are crowded together. At Ackworth, in the feminary founded and supported by the Society of Friends, the Scarlatina, in 1803, affected 171 persons, and continued upwards of four months, although the greatest exertions were made to arrest it's progress by keeping the infected separate from the rest, and also by strict attention to ventilation, and to cleanliness throughout the house; see above, pag. 270. Dr. Binns's account of the introduction of this virulent complaint among the scholars, and of the difficulty of eradicating it, cannot fail to be acceptable both to medical readers, and to those who are interested in the prosperity of academies.

“ The family was attacked by this disease when it did not exist in the neighbourhood of Ackworth, and yet, six months before, it came to our very doors without affecting any one in the house. It began in a boy from Sheffield, who had been with us a considerable time. Though not able to ascertain the point, I was led to suspect that he might have received from his friends some present imbued with contagion, having reason to believe the disorder was once introduced into a school, sixty miles from Liverpool, by a hamper of oranges sent from that town, when the disease was very prevalent there. It might probably come in another way from a distance, namely, by goods purchased,

purchased, as flocks used for the children's bolsters, or curled hair for their mattresses; but I have no sufficient ground for any of these suppositions: being, therefore, baffled in my attempts to trace it to any other place, I have been almost ready to conclude that it may have originated here, as it must have an origin somewhere;—but if so, I am entirely at a loss to say how it could be produced. Circumstances indeed seemed, at first sight, to warrant the conclusion, as two boys applied to me on account of this complaint, on the same day: I found, however, on enquiry, that the Sheffield boy was taken ill two days before the other, that he slept in the next bed, and that he had vomited very offensive matter between the beds: in this way, perhaps, infection was communicated to the second boy, for, on former occasions, I remember several cases in which the disease began two days after exposure to contagion. The above patients applied on the second of the fourth month, but no other till the twelfth of the same month, when two boys and one girl were attacked: these, I suppose, were infected by communication with persons who visited the sick, for some of the family could not be prevented from paying unnecessary, and, I think, very blameable visits*.

* The *Scarlatina anginosa* occurred here about eight years ago, in a milder form, so that of sixty or seventy who were affected, but one died: this patient was a girl, taken suddenly with convulsions, while in a reduced and dropsical state, about three weeks after the *Scarlatina* had disappeared.

“ Our number of boys when the disease broke out was 179, of whom 104 were attacked in the course of four months; after that time only one was affected. Of the 105, five died. Many children having been sent home soon after the appearance of the disease, there remained in the school, at the end of the seventh month, only 126 boys. The number of girls, at the beginning of the fourth month, was 119. Between the twelfth of this, and the end of the fifth month, 48 girls were attacked, and but one afterward; so that the disease prevailed among the girls scarcely half the time it did among the boys. Of the forty-eight affected, two died; and since many of the girls also returned home soon after the complaint appeared, their number was, at the end of the eighth month, diminished to 90. I mention this reduction of our list, lest otherwise it might appear that we were more successful than we really were, in defending a great number from the contagion. Besides the children, who were in general between eight and fourteen years of age, a few others of the family were affected with the disease.—The following is a statement of the whole:

	Affected with the disease.	Died.
Boys	105	Of whom 5
Girls	49	2
Masters, apprentices, and servant-men	8	0
Mistresses, servant-women, and apprenticed girls	9	0
	171	7 nearly 1 in 24.

About thirty other children were affected, but too slightly to be included in the sick list: however, it may be observed that in the list of 171, there was almost every gradation of the disease; I could not therefore draw the line of distinction with much exactness.

“ In regard to prevention, I think that an improvement of the diet in such as live low, moderate exercise in the open air, cold bathing, in short every mode of strengthening the constitution, with great attention to cleanliness and ventilation, must have a tendency both to ward off the disease, and to support through it those on whom the contagion has fastened.—They who are in attendance ought as much as possible to avoid taking the breath of the sick, since it is clear that the Scarlatina, and very probable that some other diseases are so received. When children in a school are affected with symptoms of fever, they should be immediately separated from the rest, till the nature of the fever be fully ascertained: this precaution having been taken, I believe several children at Ackworth, though really attacked by the Scarlatina, were, through the early application of suitable means, presently restored to health. But when these attempts did not succeed, the patients were sent to a fever-house at the bottom of the garden, more than two hundred yards from the grounds frequented by the children. This house consisted of a chamber for the sick girls, and another for the boys, with

with answerable convalescent rooms on the ground-floor, and a bed-room for the nurses, besides a few other small apartments, all, by a little contrivance, sufficiently ventilated. The children, whose complaints did not require them to be strictly confined, might walk behind the house, where there is a grass-plot: but when the fever and sloughs in the throat were wholly removed, the patients stayed a few days in the convalescent rooms, and had an opportunity of walking in the garden, at the front of the house, to clear themselves from infection by repeated exposure to the open air. After this they went across the garden to a wash-house about equally distant from the fever-house and the school, where they were entirely stripped, and washed with soft soap, particular attention being paid to cleansing their hair. They then put on fresh clothing, and went up to the rooms in the school, being, however, kept apart for some time longer. Their bed and body linen was frequently changed on their return, as it before had been in the sick-rooms. When they had continued thus about a week, and appeared to have recovered their strength, the general ablution was repeated; and after rambling in the fields for some hours, they were permitted to mix with the other children."

"As soon as the weather would permit, cold-bathing was entered on by the boys who were in health: they

began with it sooner than the girls, and used it more frequently, yet it appears by the proportion of boys affected, that they were more susceptible of the disease than the girls, which seems to militate against the opinion before given; however, the influence of other causes should be taken into account."

"Fumigations were used, with an unsparing hand, both in the sick and the convalescents' houses: they were used in the lodging-rooms of the children who were well, every evening after they retired to rest. Our usual mode of fumigation was by pouring vitriolic acid on marine salt, to which manganese was added on the recommendation of Dr. Walker, who, at my request, came over several times from Leeds to visit the sick, and to whose assistance I attribute a considerable share of the success in our management of this dreadful disease. This plan of fumigation, after a long trial, appearing insufficient to destroy the contagion, the manganese was omitted, as it tends to oxygenate the muriatic acid, by which effect, in the opinion of Chaptal, its acid virtues become weaker, since its affinities with alkalies diminish, and it is so far from reddening blue vegetable colours that it destroys them. Elem of Chem. Vol. I. p. 246. We afterwards used only the salt and acid, as recommended by Dr. Johnstone, but with no more apparent advantage than before.

fore. The vapour raised by Dr. C. Smyth's mode of fumigation, proved so unpleasant to my lungs, that I was soon obliged to lay it aside."

"Vinegar was employed very freely in sprinkling the floors, and even the bed-clothes: the patients likewise were very frequently washed, during the hot stages of the disease, with cold vinegar, or vinegar and water, or vinegar and brandy, by means of sponges, or linen cloths, not only on their faces and extremities, but occasionally over the whole body; and they, in general, experienced much relief from it."

"Though the season was usually very cool, a system of ventilation was carried on, night and day, much beyond what can be done in almost any private family. The rooms were also frequently washed, sometimes even while the sick were in them; nor do I know of any case in which this practice was attended with the smallest injury."

"Gargling night and morning, as recommended to us by Dr. Lettsom, was not used by them that were well, till the disease appeared on the decline: it must no doubt be serviceable as a preventive, but, notwithstanding it was long regularly practised by the children, it did not prevent returns of the Sore-throat with feverish symptoms."

"Not finding that the means above-mentioned are to be wholly depended upon, I would recommend,

in

in large schools, that the sick, and their attendants, or visitors, should be precluded from any communication with the rest of the family*. This I found could not be carried into effect, though the house for the sick was 250 yards from the school, while provisions, &c. were sent from it to the sick; I therefore proposed, when the disease broke out, to send away those at the time uninfected, as far as practicable: but this was not done till a very late period, some persons, who were consulted, thinking the first precaution would be sufficient."

In making the separation here recommended, we may safely act on the supposition that persons under the influence of contagion do not communicate it till they are actually affected with the fever and efflorescence. Under certain circumstances, indeed, the infection may be conveyed from one to another by a third person. A nurse, for instance, having received on her clothes, pocket-handkerchief, &c. the vapour

* In academies not so populous as Ackworth school, the above means carefully applied have been found effectual. See Dr. Haygarth's Letter to Dr. Percival, page 81; also Dr. Withering, page 67, and Dr. Blackburne, on Scarlet Fever, page 21. All these writers give a caution against the usual practice, on the appearance of the disease, of hastily dispersing the scholars, who may, after returning home, diffuse contagion in their respective families and neighbourhoods.

from the lungs, the phlegm from the throat, or discharge from the nostrils, of a patient in the Scarlet Fever, would infect any child attended or caressed by her while she wore the same dress: or servants, after visiting their relations or friends ill of Scarlatina, may sometimes infect their fellow-servants, and the children in houses where they reside; but all the persons thus secondarily infected are incapable of communicating the disease, until the fever supervene, which, by altering the state of the secretions, open a new source of contagion. It is to be remarked that convalescents from Scarlatina, notwithstanding a minute attention to cleanliness and change of apparel, remain, for two, or three weeks*, capable of infecting persons susceptible, especially children, with whom they have intercourse: in order, therefore, to prevent the contagion, the long, laborious process described, pages 383-4, seems not more than sufficient. Dr. Blackburne has properly animadverted upon the dangerous practice of sending convalescents to school, often with the clothes worn during their illness. After adducing some ex-

* These periods I have been able to ascertain in several instances. I likewise had an opportunity of observing that a convalescent from the Measles, at the end of a fortnight, although in fresh clothes, infected a child in the country, on whom the eruption appeared thirteen days after the intercourse.

amples of the mischievous effects thus produced, he adds, "The public are therefore most seriously admonished of the great danger of allowing convalescents to mix too soon with society. I have no doubt that thousands have been infected in this way, from the most unsuspected quarters, and will continue to be so unless the momentous fact here substantiated be made known, and acted upon with a conscientious regard to the public weal*."

All the precautions above specified should be observed on the appearance of the simple Scarlatina, as well as when our attention is called to the more dangerous forms of the distemper. From the statements, page 281, 332-3, it follows that the slightest case of Scarlet Fever, occurring in a large family or school, where no preventive care is exercised, may presently produce in some the Scarlatina anginosa, in others the ulcerated Sore-throat, and in others the gangrenous Sore-throat; and may thus endanger all those who have communication with the persons affected, or with their attendants. Influenced by a consideration of these circumstances, ought we not to employ all the means in our power, and especially such as have been found successful against other contagions, to eradicate

* On Scarlet Fever, page 36.

from our country this insidious, most virulent, and destructive disease?—It does not seem to have been known among us more than 150 years, for Sydenham and Morton are the first English writers who mention it. Sir Robert Sibbald, physician to King Charles the Second for Scotland, says in the year 1680, this disease had appeared so lately at Edinburgh, and was so little understood, that he could not venture to give any observations on the theory of it, nor on the method of treatment. “*Inter multos morbos, qui huic sæculo originem debent, nuperrimè Febris observata est quæ Scarlatina dicitur a coccineo colore, quo cutis ferè universa tingitur. Hujus morbi non ita frequentes observationes sunt, ut indè accurata ejus theoria tradi, et curandi methodus extrui poterit.——Paucissimi verò ex hac febre mortui sunt.*” Before the middle of the last century, it had made it’s appearance in every populous town of North Britain, as well as England, and had extended throughout the greater part of Ireland. There are, however, in different quarters of the united kingdom, some districts remote from any considerable town, and several small islands, which have not been visited by the disease, if we can trust to the memories or traditions of their inhabitants. The above circumstance affords a proof that the Scarlet Fever does not arise spontaneously in our climate (see page 284), and that, when produced, it is not communicable to

any great extent through the medium of the atmosphere, as was formerly supposed. Our endeavours to suppress it will be facilitated by the knowledge we at present possess of the manner in which it is diffused. Not only the perspiration, and breath, of persons affected with the fever, communicate it to their attendants and visitors; but the clothes, bedding, and furniture, in the apartments of the sick, are for some weeks capable of infecting those who handle or use them. Infection is likewise retained in carriages employed to convey the sick and convalescents, their nurses, or relatives. Since there is not on this head any restraint by law, and but little from private feeling, some hundreds are annually infected by hackney-coaches, stages, sedans, and hired carriages. Dr. Fothergill (page 28) remarks, that the ulcerated Sore-throat, in 1746, began at "Bow, Greenwich, and adjacent places, seeming to spread from the river side westward over the whole city." As the disease took the same course, when it was epidemical in 1786 (see above, p. 262), some physicians have thought that the Scarlatina was, on both occasions, introduced by means of infected goods brought from abroad. The disease may have been sometimes thus imported; but when it appears in the eastern part of the metropolis, it will be more frequently found to have originated from the large repositories of old clothes near the Tower, East Smithfield, and Ratcliff Highway. It is ascertained that

that cotton, hair, and wool, are the substances most readily imbued with contagion, which becomes more virulent when the air is prevented from having free access to them.—If infected clothing, made of these materials, remain for some weeks in a full close room, or locked up in chests, and be then fold out during an unhealthy season, not only the wearers of it, but all who have intercourse with them, are presently affected, and contribute to spread the disease. Thus also the Small-pox, Measles, Typhus, Hooping Cough, Itch, and Scald-Head, are perpetuated among us; and the febrile contagions are from time to time widely diffused. During the last year of my attendance at the Public Dispensary, I had reason to think that a family in Wild-Street, Lincoln's-Inn Fields, was infected with Scarlatina maligna by clothes bought in Monmouth-Street. More than fifty persons, in the adjoining houses, were soon affected with the disease, which afterwards traversed Drury-Lane, and spread by Long Acre, and the streets connected with it, through several large parishes in Westminster. Infection is principally communicated at the day-schools, which we observe in almost every street, court, and alley. They are much crowded, ill ventilated, and open to children without restriction, and without enquiry into the health of the families from which they come. Some effective restrictions are, however, necessary with

respect to these and the other sources of disease above mentioned, which, although they benefit individuals, endanger the lives of thousands.—Those who deem such restraints an infringement on our civil liberties, and contrary to the tenor of the British constitution, may be referred to the Quarantine laws, rigidly enforced on the passengers and crews of all ships coming from Turkey, or any place in Africa within the Streights of Gibraltar, or from West Barbary on the Atlantic Ocean.—By an act of Parliament explained and enforced by an order of the Privy Council, “The appointed Superintendant, and Medical Attendant, or the proper officer of the customs at the place where the quarantine is to be performed*, must go in a boat on the windward side, and see the crew, with all other persons on board, mustered on the gangway, and in their presence put two sets of questions to the master, who is to answer the same on oath. Two Quarantine Guardians are then put on board by the Superintendant, and the boats belonging to the ships are taken away till the expiration of the term: to prevent all clandestine communication, a sufficient number of guard-boats and officers row guard all night; and centinels with loaded muskets, and with small pieces of ordnance, loaded with grape and cannister shot, are constantly stationed near the lazarets.”

* There are ten lazarets, or places for quarantine, in Great Britain.

“Those who are appointed by the Superintendant to supply the ships or lazarets with necessaries, must place their boats to windward, and deliver by means of metal buckets with chains the articles they bring.”

After a tedious probationary airing of the cargo upon deck, “all the goods, wares, and merchandizes, are carried to the lazaret, there to be unpacked, opened, and aired for forty days. The Quarantine Guardians are to take care that after the discharge of the cargo, the holds and between decks of the ships shall be completely swept, and the sweepings be burnt:—to search diligently the lockers, chests, and other repositories of officers, passengers, and crews, and see that no matter, or thing, susceptible of infection, remain undelivered; and that all the chests and repositories be daily opened, and aired, or fumigated.”

These regulations are not confined to the plague, but must be observed in every “other infectious disease which is, by his Majesty, with the advice of his Privy Council, declared to be of the nature of the plague.” Heavy fines are laid, and even death is inflicted, on those who do not strictly conform to them; viz.—“Masters of vessels without clean bills of health, meeting other ships at sea, or being within four leagues of the coast must, by day, hoist a yellow flag, of six breadths of bunting, with a circular mark or ball entirely black, with diameter equal to two breadths

breadths of bunting, or by night a signal lantern at the main-top-mast head, on penalty of 200l. for every such offence."—"Pilots conducting vessels liable to quarantine into places not appointed, forfeit 100l.—"If the master of the vessel refuse to answer the questions of persons authorized, he forfeits 200l.—If he refuse to shew the officer such bill of health, and list of goods, schedule, or manifest, as he shall have received from the British Consul, or two known merchants at the port where he took the goods on board, together with his log book or journal, he shall forfeit and pay the sum of 500l.—He forfeits the same if any goods, baggage, presents, or letters, not specified in such lists, schedules, or manifests, be landed or unshipped.—"Any master, seaman, or passenger, quitting the ship without licence, may be compelled, by any person or persons whatever, by any kind of necessary force, to return on board, and may be imprisoned six months, and fined 200l."—"Masters of vessels coming from places visited with the plague, or having any infected person on board, and concealing the same, shall suffer death."—"If any person neglect to repair duly to the place appointed for him, or shall escape, and refuse to return, he shall suffer death, as in cases of felony."—This punishment extends to "any sound person entering the lazaret, who shall attempt to return from thence without licence, and after his escape refuse to perform quarantine."

"Persons

